WATER SUPPLY OUTLOOK FOR MONTANA

U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

MONTANA AGRICULTURAL EXPERIMENT STATION

AS OF
APR. 1, 1977

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: SNOW COURSE MEASUREMENTS BY A SURVEY TEAM IN UTAH'S WASATCH RANGE.
ORC-254-10

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, 6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P.O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia

USDA-SCS-PORTLAND, OR 1976

WATER SUPPLY OUTLOOK FOR MONTANA

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

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MONTANA'S
MOUNTAIN SNOWPACK BELOW NORMAL

Based on snow surveys records of past years, we can expect streamflows to decrease to well below normal levels this year after the main snowmelt period has passed.

Irrigators who depend on natural streamflows (no stored water) and who have the later water rights on a stream, may wish to consider some of the following alternatives and adjust their operations to a short water supply.

1. Take land out of production for land leveling or summer fallow.
2. Plant early maturing crops.
3. Cut small grains or millet for hay.
4. Defer new plantings of grasses and hay crops until a more favorable water supply year.
5. Take advantage of any alfalfa or clover seed production opportunities to supplement income.
6. Make arrangements early if additional pasture or winter feed will be needed.
7. Reduce livestock inventory to balance with available feed.
8. Plan to harvest only one crop of alfalfa or graze early and plow down for green manure where recommended.
9. Keep large income producing crops on most productive land.
10. Improve irrigation water distribution systems wherever possible.
11. Use the most efficient irrigation practices possible.

U.S. DEPARTMENT of AGRICULTURE
CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY
SOIL CONSERVATION SERVICE

CONTACT YOUR LOCAL SOIL CONSERVATION DISTRICT
FOR ADDITIONAL ASSISTANCE

USDA SCS PORTLAND OR 1977

CONTENTS

MONTANA WATER SUPPLY OUTLOOK
April 1, 1977

Heavy snowfall occurred over most mountain ranges during March. This increased the snow pack percentages by about 20 percent. However, about one-half of the snow courses in Montana still have the lowest water content of record.

The western third of Montana continues to show deficient snow pack while central Montana has many areas that have near or above average snow. In contrast with the low snow pack in general, snow courses in the Snowy Mountains south of Lewistown have water content near the maximum of record.

Soils under the snow are drier than normal. Streamflow is forecast near the minimum of record for all streams in Montana, and streams east of the divide with headwaters along the Continental Divide. This low water condition will carry on downstream through the Missouri and Yellowstone Rivers. Major shortages in irrigation water supplies are expected by the end of June on most streams not having stored water.

COLUMBIA RIVER DRAINAGE

Snow. Snowfall during March was above average. This increased the seasonal snow accumulation by about 20 percent. However, over one-half the snow courses measured still have the lowest water content of record. Most areas have present snow pack between 50 and 70 percent average. Some areas have less than one-half their normal snow cover. These areas are west of the Kootenai River, along the Montana-Idaho border north of Lolo Pass, and portions of the Blackfoot and Bitterroot River headwaters.

Soils under the snow are drier than normal and will require additional snow melt water before runoff can occur.

Streamflow. Most streams are forecast to have between the second and fourth lowest runoff of the past 40 years. Record low flows on most streams occurred in either 1941 or 1973. Runoff is forecast to be less than two-thirds average on most streams.

Irrigation water will become in short supply by mid-to-late June on most streams not having stored water.

MISSOURI RIVER DRAINAGE

Snow. The snow pack varies from minimum of record at many snow courses on the west side of the drainage to maximum or near maximum of record in the Snowy Mountains. About one-half the snow courses have the lowest water content of record for April 1 surveys.

Snow pack in the Bear Paws and Highwood Mountains is above average. The Little Belt, Castle and Crazy Mountains have snow cover near average.

Snow in the Madison River headwaters above Hebgen Lake headwaters of Horse Prairie Creek, Bighole, Dearborn, Sun and Teton River is less than one-half average.

Soils under the snow are drier than normal.

Streamflow. Streams in the Madison, Jefferson, Marias, Sun, Teton, and St. Mary's River drainages are forecast to have the lowest to the fifth lowest runoff of record for the last 40 years. The Main Stem Missouri is forecast to have the lowest to second lowest runoff over the past 40 years. Previous record low flows occurred on most streams in 1937, 1941, 1961, or 1973. Runoff is forecast to be about one-half of average or less on most stream systems except for the Gallatin, Smith, Musselshell and Judith Rivers.

Irrigation water supplies will be short on most streams not having stored water by mid-to-late June.

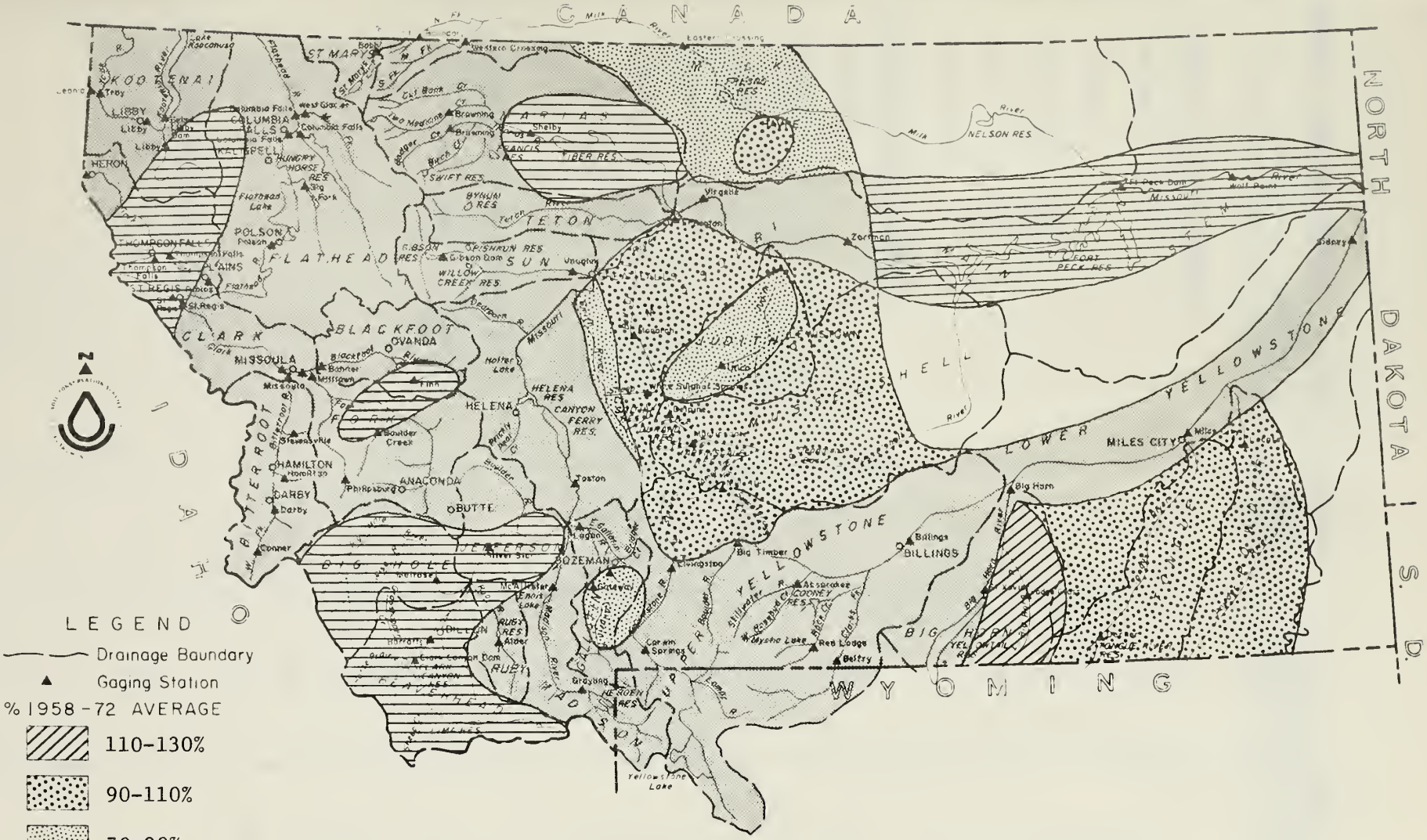
YELLOWSTONE RIVER DRAINAGE

Snow. The Yellowstone National Park area continues to have less than one-half average snow pack. Many snow courses have water content that is the lowest of record. Snow cover in the Bridger and Crazy Mountains is near average while the northern portion of the Bighorn Mountains is above average. Other areas of the Beartooth and Absarokee Mountains have snow pack about three-fourths of average.

Soils under the snow pack are drier than normal.

Runoff is forecast to be near the lowest of record over the last 40 years on the Yellowstone River and tributaries above the Bighorn River. Exceptions are streams with headwater in the Bridger and Crazy Mountains and Red Lodge Creek. Streamflow for the Bighorn River and Yellowstone River below the Bighorn is forecast to be about third or fourth lowest of record. The Little Bighorn should produce above average runoff. Most streams should have runoff between one-half and two-thirds of average. Irrigation water will be in short supply on smaller tributaries not having stored water by late June.

River levels will be lower than normal during the irrigation season. Some problems may be encountered getting water into diversion ditches or to pumps.



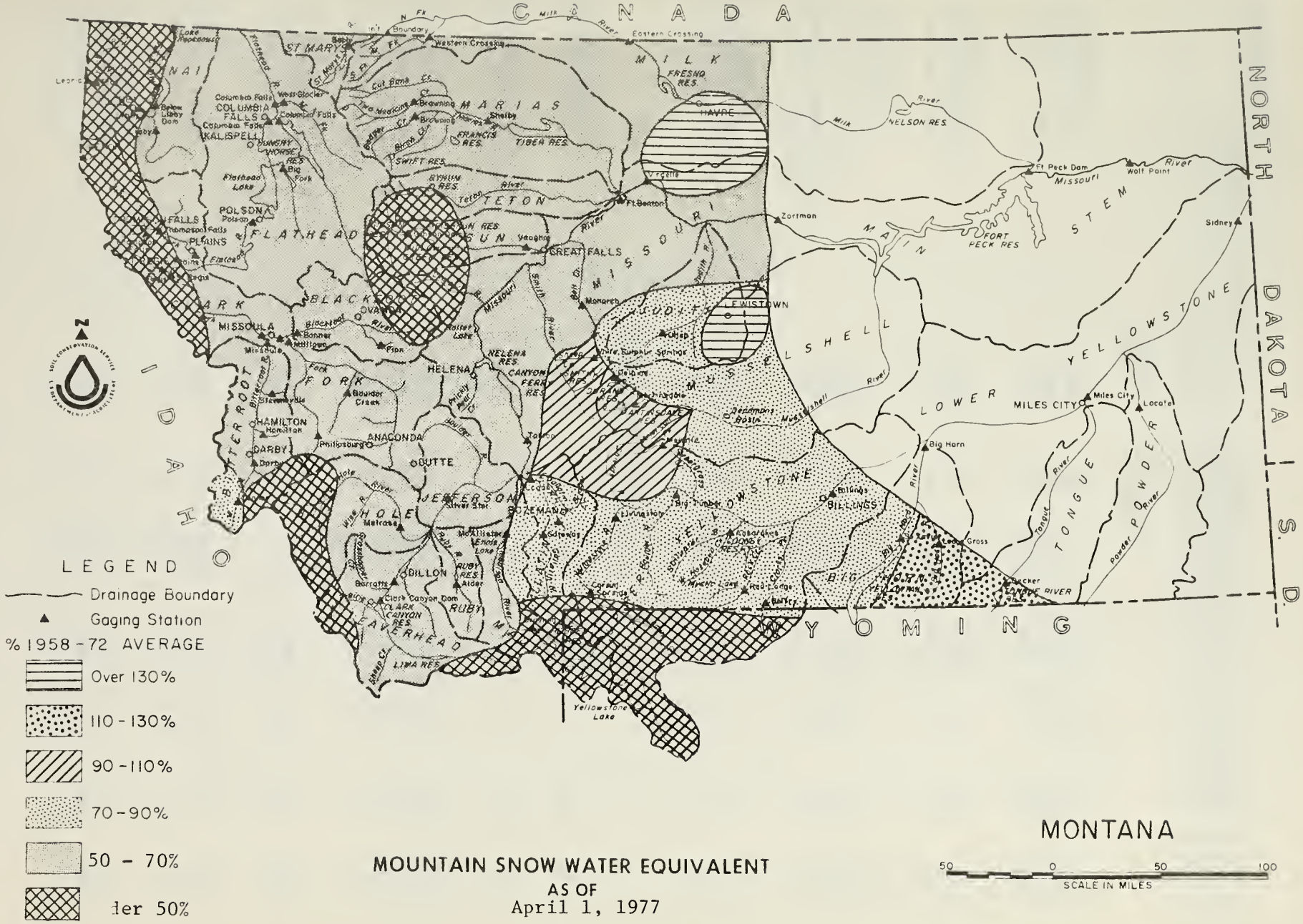
PROSPECTIVE STREAMFLOW FORECASTS
AS OF
April 1, 1977

M7-0-21138A-L

SUMMARY of SNOW MEASUREMENTS (COMPARISON WITH PREVIOUS YEARS)

April 1, 1977

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average
COLUMBIA RIVER DRAINAGE			
Kootenai	43	48	53
Flathead	30	63	65
Upper Clark Fork	37	49	59
Lower Clark Fork	14	45	51
Bitterroot	15	43	54
MISSOURI RIVER DRAINAGE			
Jefferson	55	42	51
Madison	24	41	51
Gallatin	18	66	75
Missouri Main Stem	12	70	76
Judith-Musselshell	11	95	99
Marias-Teton-Sun	12	54	56
Milk	3	87	72
YELLOWSTONE RIVER DRAINAGE			
Yellowstone (above Bighorn)	28	57	69
Bighorn	19	63	75
Little Bighorn	5	103	122
Tongue	5	112	122
Powder	5	87	103
SASKATCHEWAN RIVER DRAINAGE			
St. Mary's	2	49	48



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

M7-0-21138B-L

MOUNTAIN SNOW WATER EQUIVALENT
AS OF
April 1, 1977

SOIL MOISTURE

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average †
COLUMBIA RIVER BASIN							
Kootenai							
Baree Trail	3800	48	7.5	3-31	4.7	6.4	6.4
Murphy Lake R. S.	3000	48	22.6	4-1	19.7	19.5	21.1
Raven	3050	48	23.0	3-31	14.0	18.4	19.1
Flathead							
Desert Mountain	5600	54	8.4	3-30	5.3	8.6	7.6
Marias Pass	5250	54	6.5	3-17	4.3	6.2	5.7
Clark Fork							
Black Pine	7100	48	10.0	3-30	6.6	8.1	7.5
Lubrecht Forest	4100	48	26.8	3-30	14.0	23.5	20.3
Seeley Lake R. S.	4030	48	11.9	4-4	4.8	12.4	10.1
Skalkaho Summit	7260	48	10.8	3-31	8.4	9.9	9.8
Bitterroot							
Gibbons Pass	7100	48	7.1	3-30	3.1	5.9	4.9
Lolo Pass	5250	48	10.6	3-30	7.3	7.2	6.1
MISSOURI RIVER BASIN							
Beaverhead							
Lakeview	6700	48	15.3	3-31	8.1	13.9	10.0
Madison							
West Yellowstone	6700	48	6.5	4-1	1.4	1.8	2.6
Gallatin							
Bridger Bowl	7250	48	17.0	3-30	15.6	15.8	16.0
College Site No. 2	4860	48	17.7	4-1	8.6	16.8	17.0
Lick Creek	6860	48	18.8	3-28	11.8	14.5	16.4
Twenty-One Mile	7150	48	10.0	4-1	2.2	3.4	4.5
Missouri Main Stem							
Kings Hill	7420	48	11.8	3-29	4.4	7.1	6.9
Stemple Pass	6350	48	5.9	4-1	3.5	5.3	4.4
Milk							
Beaver Creek	3950	48	20.9	4-1	9.3	9.2	12.9
Rocky Boy	4700	36	10.1	4-1	6.9	7.2	7.8
Yellowstone							
Battle Ridge	6020	48	17.6	3-30	11.3	13.3	13.8
Northeast Entrance	7350	48	9.4	3-30	4.3	4.9	6.0
PMC Dryland	3700	48	20.7	3-31	5.7	7.3	-

† Average for period of record.

RESERVOIR STORAGE (Thousand Acre Feet) END OF MONTH

Basin or Stream	RESERVOIR	Usable Capacity	Usable Storage		
			This Year	Last Year	Average
COLUMBIA RIVER BASIN					
Kootenai	Koocanusa	5,694.0	2,340.0	1,164.0	-
Flathead	Hungry Horse	3,428.0	2,186.0	2,245.0	2,157.0
	Flathead Lake	1,791.0	611.4	768.3	794.5
	Camas (4)	45.2	16.7	19.7	27.1
	Mission Valley (8)	100.3	48.3	58.1	38.1
Clark Fork	Georgetown Lake	31.0	28.5	26.1	23.8
	Lower Willow Creek	4.9	2.9	3.8	1.4
	Nevada Creek	12.6	6.5	11.9	7.6
	Noxon Rapids	334.6	114.3	172.8	198.5
Bitterroot	Como	34.9	-	24.2	15.8
	Painted Rocks	31.7	7.3	31.8	20.2
MISSOURI RIVER BASIN					
Beaverhead	Clark Canyon	257.2	171.2	154.6	145.6
	Lima	84.0	-	48.9	33.8
Ruby	Ruby	38.8	30.3	-	30.6
Madison	Hebgen Lake	337.5	242.2	255.4	206.3
	Ennis Lake	41.0	33.2	34.2	36.3
Gallatin	Middle Creek	8.0	-	4.0	3.9
Missouri	Canyon Ferry	2,043.0	1,709.0	1,552.0	1,561.0
	Hauser & Helena	61.9	63.0	62.5	54.2
	Lake Helena	10.4	10.9	10.7	8.3
	Holter Lake	81.9	80.7	78.7	57.9
	Smith River	10.6	-	9.2	7.1
	Bair	7.0	-	5.6	5.4
	Martinsdale	23.1	-	16.2	7.8
	Deadman's Basin	72.2	-	53.8	49.5
	Fort Peck Lake	18,910.0	15,830.0	17,350.0	13,310.0
Sun	Gibson	99.0	69.1	70.3	43.6
	Willow Creek	32.2	27.2	28.8	21.0
	Pishkun	32.0	21.8	17.2	17.2
Marias	Lower Two Medicine	11.9	7.9	-	-
	Four Horns	19.2	-	-	-
	Swift	30.0	21.0	17.7	19.7
	Lake Frances	111.9	77.7	93.4	79.3
	Tiber	1,347.0	489.2	552.5	598.9
Milk	Beaver Creek	3.5	2.1	2.2	-
	Fresno	127.2	73.1	129.8	86.5
	Nelson	66.8	45.6	48.3	40.7
	Lake Sherburne	66.2	17.7	34.7	24.7
Yellowstone	Mystic Lake	21.0	0.0	2.3	4.7
	Tongue River	68.0	-	38.9	38.4
	Cooney	27.4	15.8	11.2	15.6
Bighorn	Bighorn Lake	1,356.0	848.0	784.4	796.2

Average based on 1958-72 period.

BASIN, STREAM and/or FORECAST POINT	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	FORECAST PERIOD	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average
COLUMBIA RIVER BASIN					
KOOTENAI RIVER					
Libby (near)(2)	4,100	55	Apr-Sept	8,012	7,456
Below Libby Dam	3,400	53	Apr-July	6,262	6,417
	2,700	54	Apr-June	4,593	5,011
FISHER RIVER					
Libby (near)	92.0	32	Apr-Sept		286
	85.0	32	Apr-July		269
YAAK RIVER					
Troy (near)	225	40	Apr-Sept		568
	200	37	Apr-July		544
KOOTENAI RIVER					
Leonia (at)(2)	4,850	53	Apr-Sept		9,073
	4,150	52	Apr-July		7,957
	3,400	53	Apr-June		6,431
INFLOW MOULTON RESERVOIR					
Butte (near)(million gallons)	90	41	Apr-June	444	220
WARM SPRINGS CREEK AT MEYERS DAM					
Anaconda (near)(3)	26.5	52	Apr-Sept	74.6	50.9
	21.0	50	Apr-July	61.6	41.8
FLINT CREEK					
Southern Cross (near)(4)	7.3	43	Apr-Sept	31.7	16.9
	5.9	41	Apr-July	26.2	14.3
FLINT CREEK					
Boulder Creek (below)(5)	33.0	46	Apr-Sept		71.6
	26.0	46	Apr-July		56.1
INFLOW LOWER WILLOW CREEK RESERVOIR					
Hall (near)(6)	5.5	34	Apr-Sept	28.0	16.2
	5.0	32	Apr-July	26.7	15.4
MIDDLE FORK ROCK CREEK					
Philipsburg (near)	35.0	46	Apr-Sept		75.9
	30.0	44	Apr-July		68.6
NEVADA CREEK					
Finn (near)	6.0	28	Apr-Sept		21.6
	5.5	27	Apr-July		20.1

(2) Adjusted for storage in Lake Koocanusa.
(3) Adjusted for storage in Silver Lake, diversions to and pumping from Georgetown Lake.
(4) Adjusted for storage in Georgetown Lake, diversions from and pumping to Silver Lake.
(5) Sum Flint Creek at Maxville and Boulder Creek at Maxville.
(6) Sum of North Fork Lower Willow Creek near Hall and South Fork Lower Willow Creek near Hall.

Average based on 1958-72 period.

BASIN, STREAM and or FORECAST POINT	THIS YEAR FORECAST Thousand Acre-Feet	THIS YEAR FORECAST Percent of Average	THIS YEAR FORECAST PERIOD	LAST RECORD THOUSAND ACRE-FEET Last Year	LAST RECORD THOUSAND ACRE-FEET Average
COLUMBIA RIVER BASIN (Continued)					
BLACKFOOT RIVER					
Bonner (near)	500	48	Apr-Sept		1,031
	420	45	Apr-July		934
	360	44	Apr-June		814
CLARK FORK RIVER					
Milltown (above)(7)	390	49	Apr-Sept		792
	330	48	Apr-July		690
	270	46	Apr-June		590
CLARK FORK RIVER					
Missoula (above)	890	49	Apr-Sept	2,649	1,823
	750	46	Apr-July	2,389	1,624
	630	45	Apr-June	2,106	1,404
WEST FORK BITTERROOT RIVER					
Conner (near)(8)	73.0	42	Apr-Sept		172
	65.0	42	Apr-July		156
BITTERROOT RIVER					
Darby (near)	245	42	Apr-Sept	836	584
	220	41	Apr-July	758	542
	195	41	Apr-June	666	479
SKALKAHO CREEK					
Hamilton (near)	31.5	56	Apr-Sept		56.6
	26.0	52	Apr-July		49.6
BURNT FORK CREEK					
Stevensville (near)(9)	21.0	59	Apr-Sept		35.3
	18.0	58	Apr-July		31.0
BITTERROOT RIVER					
Missoula (at)(10)	580	38	Apr-Sept		1,527
	520	37	Apr-July		1,412
	480	39	Apr-June		1,236
CLARK FORK RIVER					
Missoula (below)	1,470	44	Apr-Sept		3,350
	1,270	42	Apr-July		3,036
	1,100	42	Apr-June		2,640
CLARK FORK RIVER					
St. Regis (at)	1,850	41	Apr-Sept	6,119	4,507
	1,620	40	Apr-July	5,504	4,087
	1,420	40	Apr-June	4,794	3,563
NORTH FORK FLATHEAD RIVER					
Columbia Falls (near)	1,100	55	Apr-Sept		1,991
	1,000	55	Apr-July		1,813
	870	56	Apr-June		1,551

(7) Difference in observed flow Clark Fork above Missoula and Blackfoot near Bonner.
(8) Adjusted for storage in Painted Rocks Reservoir.
(9) Adjusted for diversion into Sunset Highline Canal.
(10) Difference in observed flow Clark Fork above and below Missoula.

Average based on 1958-72 period.

BASIN, STREAM and or FORECAST POINT	THIS YEAR FORECAST Thousand Acre-Feet	THIS YEAR FORECAST Percent of Average	THIS YEAR FORECAST Forecast Period	PAST RECORD Thousand Acre-Feet Last Year	PAST RECORD Thousand Acre-Feet Average
COLUMBIA RIVER BASIN (Continued)					
MIDDLE FORK FLATHEAD RIVER					
West Glacier (near)	1,250	65	Apr-Sept	1,982	1,917
	1,150	65	Apr-July	1,779	1,768
	1,020	67	Apr-June	1,458	1,514
SOUTH FORK FLATHEAD RIVER					
Columbia Falls (near)	1,520	64	Apr-Sept	2,489	2,378
	1,450	65	Apr-July	2,345	2,240
	1,270	64	Apr-June	2,038	1,984
FLATHEAD RIVER					
Columbia Falls (at) (11)	4,000	62	Apr-Sept	6,785	6,421
	3,700	62	Apr-July	6,176	5,942
	3,250	63	Apr-June	5,200	5,151
SWAN RIVER					
Big Fork (near)	465	65	Apr-Sept		717
	410	65	Apr-July		630
FLATHEAD RIVER					
Polson (near)	4,450	58	Apr-Sept	8,187	
	4,120	58	Apr-July	7,343	7,082
	3,660	60	Apr-June	6,160	6,113
CLARK FORK RIVER					
Plains (near)(12)	6,400	50	Apr-Sept	14,454	12,601
	5,750	50	Apr-July	12,967	11,523
	5,000	50	Apr-June	10,996	9,934
THOMPSON RIVER					
Thompson Falls (near)	120	43	Apr-Sept		277
	100	40	Apr-July		248
PROSPECT CREEK					
Thompson Falls (at)	56.0	38	Apr-Sept		147
	51.0	37	Apr-July		137
CLARK FORK RIVER					
Whitehorse Rapids (at)(13)	7,000	50	Apr-Sept		14,083
	6,350	49	Apr-July		12,852
	5,500	50	Apr-June		11,092

(11) Adjusted for storage in Hungry Horse Reservoir.
(12) Adjusted for storage in Hungry Horse Reservoir and Flathead Lake.
(13) Adjusted for storage in Hungry Horse Reservoir, Flathead Lake, and Noxon Rapids Reservoirs.

Average based on 1958-72 period.

BASIN, STREAM and FORECAST POINT	THIS YEAR: FORECAST: Thousand Acre-Feet	THIS YEAR: FORECAST: Percent of Average	THIS YEAR: FORECAST PERIOD	[illegible]: THOUSAND ACRE-FEET: [illegible]	[illegible]: THOUSAND ACRE-FEET: [illegible]
MISSOURI RIVER BASIN					
BEAVERHEAD RIVER					
Grant (near)(14)	22.0	15	Apr-Sept	244	145
	20.0	16	Apr-July	202	127
RUBY RIVER					
Alder (near)	56.0	60	Apr-Sept		93.9
	47.0	59	Apr-July		79.4
BIG HOLE RIVER					
Melrose (near)	225	34	Apr-Sept		748
	235	34	Apr-July		694
BIRCH CREEK					
Glen (near)	6.5	47	Apr-Sept		13.7
	5.1	44	Apr-July		11.5
BOULDER RIVER					
Boulder (near)	43.0	48	Apr-Sept	145	89.5
	41.5	49	Apr-July	134	85.3
WILLOW CREEK					
Harrison (near)	5.0	26	Apr-Sept		18.9
	4.5	26	Apr-July		17.1
MADISON RIVER					
Grayling (near)(15)	290	60	Apr-Sept	575	480
	220	59	Apr-July	449	374
MADISON RIVER					
McAllister (near)(16)	530	64	Apr-Sept	994	828
	415	64	Apr-July	792	652
GALLATIN RIVER					
Gateway (near)	370	70	Apr-Sept		531
	315	70	Apr-July		451
INFLOW MIDDLE CREEK RESERVOIR					
Bozeman (near)(17)	22.0	78	Apr-Sept		28.2
	18.9	77	Apr-July		24.4
HYALITE CREEK					
Bozeman (near)(18)	34.0	77	Apr-Sept		44.2
	29.6	77	Apr-July		38.2
GALLATIN RIVER					
Logan (at)	340	59	Apr-Sept		573
	285	58	Apr-July		487

(14) Adjusted for storage in Lima and Clark Canyon Reservoirs.
(15) Adjusted for storage in Hebgen Lake.
(16) Adjusted for storage in Hebgen and Ennis Lakes.
(17) Sum of West Fork Hyalite Creek and East Fork Hyalite Creek above Reservoir.
(18) Adjusted for storage in Middle Creek Reservoir.

Average based on 1958-72 period.

BASIN, STREAM and or FORECAST POINT	THIS YEAR FORECAST Thousand Acre-Feet	THIS YEAR FORECAST Percent of Average	THIS YEAR FORECAST PERIOD	PAST RECORD THOUSAND ACRE-FEET Last Year	PAST RECORD THOUSAND ACRE-FEET Average
MISSOURI RIVER BASIN (Continued)					
MISSOURI RIVER					
Toston (at)(19)	1,100	45	Apr-Sept	3,517	2,432
	935	44	Apr-July	3,168	2,109
SHEEP CREEK					
White Sulphur Springs (near)	19.7	96	Apr-Sept	25.2	20.6
	17.0	94	Apr-July	21.9	18.0
SUN RIVER					
Gibson Dam (at)(20)	270	46	Apr-Sept	703	590
	240	44	Apr-July	643	541
BELT CREEK					
Monarch (near)	115	93	Apr-Sept		123
	105	93	Apr-July		113
MISSOURI RIVER					
Fort Benton (at)(21)	1,700	46	Apr-Sept		3,690
	1,375	44	Apr-July		3,123
TWO MEDICINE CREEK					
Browning (near)(22)	140	55	Apr-Sept		253
	130	54	Apr-July		240
BADGER CREEK					
Browning (near)	74.0	57	Apr-Sept		130
	62.0	55	Apr-July		113
MARIAS RIVER					
Shelby (near)(23)	205	37	Apr-Sept		599
	185	34	Apr-July		538
MISSOURI RIVER					
Virgelle (at)(24)	1,900	44	Apr-Sept		4,342
	1,550	41	Apr-July		3,742
SOUTH FORK JUDITH RIVER					
Utica (near)	12.0	81	Apr-Sept		14.9
	11.0	80	Apr-July		13.7
MISSOURI RIVER					
Landusky (near)(24)	2,050	43	Apr-Sept		4,739
	1,600	39	Apr-July		4,068

(19) Adjusted for storage in Hebgen and Ennis Lakes and Clark Canyon Reservoir.
(20) Adjusted for storage in Gibson Reservoir and diversions.
(21) Adjusted for storage in Canyon Ferry Reservoir.
(22) Adjusted for storage in Two Medicine Reservoir and diversions into Two Medicine Canal.
(23) Adjusted for storage in Two Medicine, Four Horns, Lake Frances, and Swift Reservoir.
(24) Adjusted for storage in Canyon Ferry and Tiber Reservoirs.

Average based on 1958-72 period.

BASIN, STREAM and/or FORECAST POINT	THIS YEAR FORECAST Thousand Acre-Feet	THIS YEAR FORECAST Percent of Average*	THIS YEAR FORECAST PERIOD	PAST RECORD Thousand Acre-Feet Last Year	PAST RECORD Thousand Acre-Feet Average*
MISSOURI RIVER BASIN (Continued)					
NORTH FORK MUSSELSHELL RIVER					
Delpine (near)	5.8	94	Apr-Sept		6.2
	5.0	93	Apr-July		5.4
SOUTH FORK MUSSELSHELL RIVER					
Martinsdale (above)	47.0	94	Apr-Sept		50.1
	45.0	95	Apr-July		47.3
MISSOURI RIVER					
Fort Peck Dam (below)(25)	1,650	36	Apr-Sept		4,598
	1,450	36	Apr-July		4,069
MILK RIVER					
Eastern Crossing (at)	205	79	Apr-Sept		260
MISSOURI RIVER					
Wolf Point (near)(25)	1,700	35	Apr-Sept		4,898
	1,500	34	Apr-July		4,361
MISSOURI RIVER					
Williston, N.D. (near)(31)	5,050	43	Apr-Sept		11,778
	4,450	43	Apr-July		10,437
SASKATCHEWAN RIVER BASIN					
ST. MARY RIVER					
Babb (near)(32)	338	69	Apr-Sept		490
	280	67	Apr-July		421

(25) Adjusted for storage in Canyon Ferry, Tiber, and Fort Peck Reservoirs.
(31) Adjusted for storage in Canyon Ferry, Tiber, Fort Peck, Buffalo Bill, Boysen and Yellowtail Reservoirs. Sum Yellowstone River near Sidney and Missouri River near Culbertson.
(32) Adjusted for storage in Lake Sherburne.

*Average based on 1958-72 period.

BASIN, STREAM and FORECAST POINT	THIS YEAR FORECAST Thousand Acre-Feet	THIS YEAR FORECAST Percent of Average	THIS YEAR FORECAST Forecast Period	LAST YEAR Thousand Acre-Feet	LAST YEAR Percent of Average

YELLOWSTONE RIVER BASIN

YELLOWSTONE RIVER					
Corwin Springs (at)	1,180	59	Apr-Sept	2,453	1,996
	950	57	Apr-July	2,089	1,662
YELLOWSTONE RIVER					
Livingston (near)	1,280	55	Apr-Sept		2,317
	1,060	55	Apr-July		1,926
BOULDER RIVER					
Big Timber (at)	215	57	Apr-Sept		379
	200	57	Apr-July		350
STILLWATER RIVER					
Absarokee (near)(26)	380	64	Apr-Sept		591
	310	63	Apr-July		494
CLARKS FORK RIVER					
Belfry (near)	360	59	Apr-Sept		607
	325	60	Apr-July		546
ROCK CREEK					
Red Lodge (near)	66.0	60	Apr-Sept		110
	47.0	56	Apr-July		84.0
INFLOW COONEY RESERVOIR					
Boyd (near)(27)	26.5	51	Apr-Sept		51.5
	21.0	51	Apr-July		41.1
YELLOWSTONE RIVER					
Billings (at)	2,450	58	Apr-Sept	5,711	4,246
	2,100	58	Apr-July	4,876	3,613
BIGHORN RIVER					
St. Xavier (near)(28)	700	38	Apr-Sept	2,077	1,849
	650	38	Apr-July	1,846	1,706
LITTLE BIGHORN RIVER					
Lodgegrass (near)(29)	180	123	Apr-Sept		146
	160	124	Apr-July		129
YELLOWSTONE RIVER					
Miles City (at)(30)	3,250	51	Apr-Sept		6,378
	2,800	50	Apr-July		5,555
YELLOWSTONE RIVER					
Sidney (near)(30)	3,350	50	Apr-Sept		6,665
	2,900	49	Apr-July		5,895

(26) Adjusted for storage in Mystic Lake.
(27) Sum of Red Lodge Creek above Reservoir and Willow Creek near Boyd.
(28) Adjusted for storage in Buffalo Bill, Boysen, Bull Lake and Yellowtail
(29) Sum Little Bighorn below Pass Creek and Lodgegrass Creek near Wyola.
(30) Adjusted for storage in Buffalo Bill, Boysen and Yellowtail Reservoirs.

Average based on 1958-72 period.

SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation				Last Year	Average
ABUNDANCE LAKE	8800	3/31	49	13.0	30.0	20.9
AMBROSE	6480	4/01	38	8.5	17.2	13.8
ARCH FALLS	7350	3/28	38	10.4	16.4	14.0
BADGER PASS	6900	4/02	87	26.6	48.4	42.0
BALD EAGLE PEAK	5700	3/31	92	34.1	67.9	68.0
BALD RIDGE	7500	3/31	57	14.4	15.3	14.0
BANFIELD MOUNTAIN	5600	4/01	41	12.6	27.4	25.5
BANFIELD MOUNTAIN PILLOW	5600	4/01	SP	10.5	24.9	21.8
BAREE CREEK	5500	4/01	83	29.5	59.8	49.4
BAREE MIDWAY	4600	3/31	71	23.8	45.0	37.7
BAREE TRAIL	3800	3/31	13	3.8	14.3	9.6
BASIN CREEK	7180	3/28	31	5.4	11.8	-
BASSOO PEAK	5150	3/31	20	5.7	10.1	12.0
BATTLE RIDGE	6020	3/30	33	8.6	6.5	7.4
BEAGLE SPRINGS	8850	4/03	25	5.4	-	-
BEAR BASIN	8150	3/29	61	18.6	27.0	22.4
BEAR MOUNTAIN (ID)	5400	3/30	89	30.5	70.8	65.7
BEAR PAW SKI AREA	5200	4/01	30	8.2	5.0	6.3
BEAVER LAKE	5900	4/02	60	14.4	27.6	25.1
BERRY MEADOW	7000	3/28	19	4.8	9.7	8.3
BIG CREEK	6750	3/30	104	33.6	44.5	49.7
BIG SKY	7700	4/02	46	12.9	19.7	17.3
BIG SKY MEADOW	6350	3/29	29	7.9	13.3	9.0
BIG SPRINGS (ID)	6500	3/31	30	7.7	24.6	21.3
BLACK BEAR	7950	3/31	57	17.5	53.0	-
BLACK BEAR PILLOW	7950	3/31	SP	17.1	44.9	-
BLACK CANYON	7850	3/30	46	13.2	44.6	34.0
BLACK MOOSE (ID)	8120	3/30	45	14.4	48.2	39.8
BLACK MOUNTAIN	7750	4/04	43	10.8	20.4	-
BLACK PINE	7100	3/30	34	8.7	19.0	14.0
BLACK PINE PILLOW	7100	3/30	SP	8.7	21.5	14.2
BLOODY DICK	7600	3/31	30	6.8	19.8	14.0
BLOODY DICK PILLOW	7600	3/31	SP	6.9	-	-
BLUE LAKE	5900	4/02	66	18.5	30.0	28.2
BLUE LEDGE MINE (ID)	6700	3/30	22	5.3	16.4	17.2
BOTS SOTS	8000	4/01	33	5.4	8.3	-
BOULDER MOUNTAIN	7950	3/28	45	12.2	25.5	19.5
BOULDER MOUNTAIN PILLOW	7950	3/28	SP	11.4	-	-
BOX CANYON	6670	4/01	39	9.2	18.4	-
BOXELDER CREEK	5100	3/28	27	7.8	7.4	-
BRANHAM LAKES	8850	3/30	67	17.9	35.4	31.6
BRIDGER BOWL	7250	3/30	72	22.7	30.2	30.8
BRIDGER BOWL PILLOW	7250	3/30	SP	22.1	30.5	29.6
BRISTOW CREEK	3900	4/01	9	2.8	13.3	13.4
BRUSH CREEK TIMBER	5000	3/29	22	5.4	10.8	10.9
CABIN CREEK	5200	4/01	17	4.2	5.7	7.4
CALL ROAD	8050	4/03	35	8.2	14.5	12.2
CALVERT CREEK	6450	4/01	27	5.8	14.2	10.6

Average based On 1958-72 period. A - Aerial observation; water content estimated.
SP - Snow Pillow observation; water content only.

SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Elevation				Last Year	Average
CALVERT CREEK PILLOW	6450	4/01	SP	4.9	11.0	-
CAMP CREEK (ID)	6800	3/31	12	2.3	8.3	10.4
CAMP MISERY	6400	3/31	118	42.8	46.9	49.6
CAMP SENIA	7890	4/01	37	5.9	7.3	7.2
CANYON (WY)	7750	4/04	32	7.2	21.7	16.5
CARROT BASIN	9000	3/30	59	17.3	39.6	38.1
CARROT BASIN PILLOW	9000	3/29	SP	14.4	31.9	28.6
CARTER CREEK	7400	4/03	21	4.7	8.1	6.4
CEDAR GROVE	4100	3/31	22	7.1	15.7	12.7
CHESSMAN RESERVOIR	6200	3/31	20	3.2	3.0	3.3
CHICKEN CREEK	4060	3/24	33	10.4	-	-
CLOVER MEADOW	8600	4/03	52	13.0	22.2	18.7
COLE CREEK	7850	3/31	67	14.3	20.4	-
COLE CREEK PILLOW	7850	3/31	SP	14.3	18.8	-
COLLEY CREEK	6300	3/30	33	8.7	10.8	-
COMBINATION	5600	3/30	19	3.5	7.8	8.1
COMBINATION PILLOW	5600	3/30	SP	5.0	8.1	-
COOKE STATION	8150	3/31	46	12.4	27.4	20.5
COPPER BOTTOM	5200	3/31	23	5.7	12.8	11.8
COPPER BOTTOM PILLOW	5200	3/31	SP	7.6	15.5	-
COPPER CAMP	6950	3/31	54	15.4	37.4	35.6
COPPER CAMP PILLOW	6950	3/31	SP	16.2	45.4	-
COPPER CREEK	5700	3/31	28	6.0	16.0	16.3
COPPER LAKE CREEK	6100	3/31	44	11.6	27.0	25.7
COPPER MOUNTAIN	7700	4/02	31	7.9	14.4	12.3
COTTONWOOD CREEK	6400	4/01	29	6.5	11.9	-
COYOTE HILL	4200	3/29	32	9.7	12.1	10.5
CREVICE MOUNTAIN	8400	3/30	34	8.0	14.1	10.6
CRYSTAL LAKE	6100	4/05	80	21.6	12.6	14.5
DAD CREEK LAKE	8400	4/03	36	7.7	19.8	15.3
DAISY PEAK	7600	4/02	48	9.9	14.3	11.6
DALY CREEK	5780	3/29	33	7.6	16.8	-
DARKHORSE LAKE	8600	3/31	46	13.6	38.2	28.0
DAVIS CREEK	5400	3/29	45	13.6	28.1	26.5
DEADMAN CREEK	6450	3/29	49	13.4	10.6	12.7
DEADMAN CREEK PILLOW	6450	3/29	SP	11.8	9.5	11.0
DESERT MOUNTAIN	5600	3/30	40	11.7	16.6	17.2
DEVILS SLIDE	8100	3/28	66	19.4	27.6	24.7
DISCOVERY BASIN	7050	3/30	36	8.0	13.8	-
DIVIDE	7800	4/03	25	5.4	10.6	11.6
DIVIDE PILLOW	7800	4/03	SP	6.8	10.4	-
DIX HILL	6400	4/01	31	7.0	12.2	-
EAGLE CREEK	7000	4/01	62	15.6	18.7	14.9
EAST BOULDER S	9250	4/05	75	23.0A	39.0	-
EAST FORK R.S.	5400	3/31	14	2.9	8.2	6.7
EL DORADO MINE	7800	3/28	49	12.3	31.4	23.1
ELK HORN SPRINGS	7800	3/31	26	5.6	12.3	9.7
ELK PEAK	8000	3/30	58	17.4	19.5	19.2
EMERY CREEK	4350	3/30	42	11.9	17.7	-
EMERY CREEK PILLOW	4350	3/30	SP	11.3	-	-

Average based On 1958-72 period. A - Aerial observation; water content estimated.
SP - Snow Pillow observation; water content only.

SNOW

ORAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
					Water Content (inches)	
NAME	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average
FATTY CREEK	5500	3/30	68	20.9	24.9	24.8
FISH CREEK	8000	3/28	33	6.1	13.3	-
FISHER CREEK	9100	3/31	77	22.8	49.2	38.5
FISHER CREEK PILLOW	9100	3/31	SP	23.3	45.6	35.0
FIVE-BULL	5700	4/02	18	3.8	4.6	7.5
FLEECER RIDGE	7500	3/30	35	7.8	14.4	-
FOOLHEN	8280	3/31	38	10.8	23.8	18.2
FOREST LAKE	6400	4/01	53	13.3	15.0	12.7
FOUR MILE	6900	3/29	25	5.4	11.5	9.1
FOURTH OF JULY	3450	3/28	15	3.8	-	-
FRED BURR PASS	8000	3/31	55	15.9	34.7	28.2
FREIGHT CREEK	6000	4/02	51	11.8	17.4	16.8
FRIDAY HILL	4620	3/28	38	11.6	-	-
FROHNER MEADOWS	6480	3/29	34	6.4	9.4	-
FROHNER MEADOWS PILLOW	6480	3/29	SP	6.7	9.5	-
GARVER CREEK	4250	3/29	16	4.9	10.5	12.8
GARVER CREEK PILLOW	4250	3/27	SP	6.6	11.1	10.4
GIBBONS PASS	7100	3/29	54	9.5	29.0	23.7
GOAT MOUNTAIN	7000	4/02	25	4.8	14.2	11.8
GOLD CREEK LAKE	7200	3/28	36	8.4	23.4	17.1
GOLD STONE	8100	3/31	36	8.8	24.7	17.9
GRASSHOPPER	7000	3/30	29	6.8	5.1	5.9
GRAVE CREEK	4300	3/28	32	9.3	19.2	19.4
GRAVE CREEK PILLOW	4300	3/28	SP	10.1	19.6	-
GRIFFIN CREEK DIVIDE	5150	3/30	24	6.6	11.0	12.4
GRIZZLY PEAK	8400	3/31	67	12.8	18.0	17.5
GUNSIGHT LAKE	6300	4/02	85	27.8	43.5	42.9
HALVERSON CREEK (ID)	4850	3/30	79	26.5	59.1	50.7
HAND CREEK	5030	3/29	34	8.9	13.5	-
HAND CREEK PILLOW	5030	3/29	SP	8.0	-	-
HAWKINS LAKE	6450	3/29	53	15.7	41.3	32.8
HAWKINS LAKE PILLOW	6450	3/29	SP	14.4	36.9	30.4
HEART LAKE TRAIL	4800	3/31	43	11.6	28.4	23.4
HEBGEN DAM	6550	3/30	28	7.9	16.8	11.6
HELL ROARING DIVIDE	5770	3/31	65	20.6	31.9	34.0
HERRIG JUNCTION	4850	3/24	50	15.8	-	-
HIGHWOOD STATION	4600	3/31	49	9.2	.0	-
HOLBROOK	4530	3/26	25	7.4	10.7	10.5
HOOD MEADOW	6600	3/28	36	9.7	13.8	12.0
HOODOO BASIN	6000	3/31	82	23.0	63.4	53.8
HOODOO BASIN PILLOW	6000	3/31	SP	19.3	54.7	53.3
HOODOO CREEK	5900	3/31	75	22.4	59.3	50.3
INDEPENDENCE	7850	4/01	52	12.8	25.8	19.1
INTERGAARD	6450	4/03	26	5.5	13.2	9.2
ISLAND PARK (ID)	6310	3/31	25	6.4	21.5	16.4
JACK CREEK	7500	3/30	26	6.4	8.1	6.1
JAHNKE LAKE TRAIL	7200	3/31	23	4.8	14.8	9.7
JOHNSON PARK	6450	4/02	25	5.8	8.0	7.2
KEELER CREEK	3300	3/30	10	3.6	15.3	11.1
KILGORE (ID)	6200	3/30	13	3.2	10.9	10.9

Average based On 1958-72 period. A - Aerial observation; water content estimated.
SP - Snow Pillow observation; water content only.

SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
					Water Content (inches)	
NAME	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average
KINGS HILL	7500	3/31	48	13.4	16.5	15.2
KIT CARSON (ID)	5020	3/31	29	8.5	12.9	9.1
KIWANIS CAMP	3720	3/31	13	2.2	.0	-
LAKE CAMP (WY)	7850	3/31	22	4.8	12.7	9.9
LAKE CREEK	6100	3/31	12	4.2	10.6	7.5
LAKEVIEW CANYON	6930	3/31	17	3.7	12.4	13.6
LAKEVIEW RIDGE	7400	3/31	16	3.6	11.7	11.6
LATHAM SPRINGS (ID)	7650	3/30	47	14.4	44.4	32.6
LEMHI PASS	7480	4/03	27	5.6	13.6	9.2
LEMHI RIDGE	8100	4/03	31	6.1	15.5	10.4
LEMHI RIDGE PILLOW	8100	4/03	SP	7.3	17.3	-
LICK CREEK	6860	3/28	40	9.9	12.6	10.6
LICK CREEK PILLOW	6860	3/28	SP	10.5	11.5	10.6
LITTLE PARK	7400	3/29	48	13.6	21.2	17.0
LOGAN CREEK	4300	3/29	16	4.4	7.5	8.0
LOLO PASS (ID)	5230	3/31	56	15.6	38.1	32.8
LOLO PASS PILLOW	5230	3/28	SP	18.6	31.4	-
LONE MOUNTAIN	8880	4/02	56	16.0	30.1	25.1
LOOKOUT (ID)	5250	3/28	62	18.2	39.0	38.7
LOST HORSE	5940	3/31	61	17.4	48.3	33.7
LOST SOUL	4800	4/01	32	8.6	18.4	17.2
LOWER TWIN	7900	3/29	46	12.7	25.8	22.5
LUBRECHT FLUME	4800	3/28	18	5.0	8.6	5.1
LUBRECHT FLUME PILLOW	4800	3/28	SP	4.6	6.8	5.7
LUBRECHT FOREST # 3	5450	3/30	19	5.5	8.2	7.4
LUBRECHT FOREST # 4	4650	3/30	5	1.5	1.9	2.8
LUBRECHT FOREST # 6	4040	3/30	4	1.4	2.3	2.8
LUBRECHT HYDROPLOT	4200	3/28	6	1.6	6.2	3.2
LUPINE CREEK (WY)	7300	4/05	23	5.4	14.5	10.3
MADISON PLATEAU	7750	3/31	34	7.5	31.8	22.3
MADISON PLATEAU PILLOW	7750	3/31	SP	11.9	31.6	23.2
MANY GLACIER	4960	3/31	46	12.8	-	-
MANY GLACIER PILLOW	4960	3/31	SP	12.3	-	-
MARIAS PASS	5250	4/01	30	7.4	18.0	19.6
MAYNARD CREEK	6210	3/30	53	15.4	17.2	19.4
MAYNARD CREEK PILLOW	6210	3/30	SP	9.5	10.0	12.7
MIDDLE MILL CREEK	7850	3/31	39	9.7	18.5	16.6
MILL CREEK	7500	3/30	50	12.9	15.7	14.3
MINERAL CREEK	4000	4/02	44	11.7	21.1	20.0
MONUMENT PEAK	8800	4/01	69	20.0	37.2	27.8
MOOSE CREEK (ID)	6200	3/31	37	7.7	19.3	16.9
MOULTON RESERVOIR	6850	3/30	20	3.9	-	-
MOUNT LOCKHART	6400	4/03	54	12.2	28.8	25.0
MOUNT LOCKHART PILLOW	6400	4/03	SP	12.4	25.2	22.5
MUDD LAKE	7650	4/01	38	9.2	23.7	23.0
NEW WORLD	6900	3/30	64	16.0	19.4	16.3
NEWTON MOUNTAIN	5600	3/28	58	17.0	-	-
NEZ PERCE CAMP	5580	3/31	41	11.7	16.9	15.3
NEZ PERCE CAMP PILLOW	5580	3/31	SP	10.3	-	-
NEZ PERCE CREEK	6500	4/02	20	4.9	8.6	6.8

Average based On 1958-72 period. A - Aerial observation; water content estimated.
SP - Snow Pillow observation; water content only.

SNOW

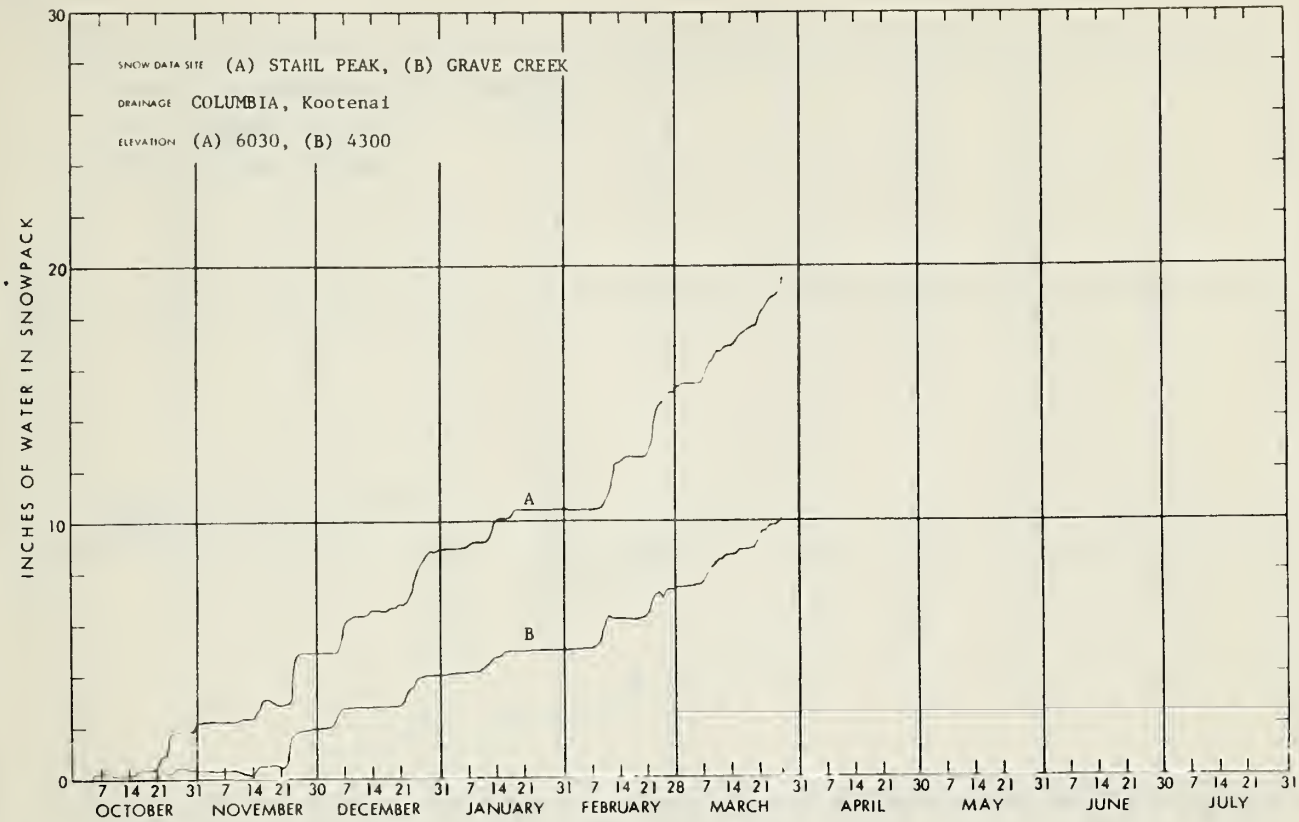
DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
					Water Content (inches)	
NAME	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average
NEZ PERCE PASS	6570	3/31	44	12.5	24.6	17.3
NOISY BASIN	6040	3/31	116	41.0	44.5	-
NOISY BASIN PILLOW	6040	3/31	SP	34.4	38.6	-
NOISY CREEK	3600	3/31	15	5.2	3.3	-
NORRIS BASIN (WY)	7500	4/05	26	6.1	15.5	11.0
NORTH FK. ELK CREEK	6250	3/28	35	8.6	15.2	12.7
NORTH FK. ELK CREEK PILL	6250	3/28	SP	8.4	16.7	13.1
NORTH FORK JOCKO	6330	3/30	102	35.1	53.1	49.6
NORTH MEADOW	7500	3/29	24	4.7	11.1	9.2
NORTHEAST ENTRANCE	7400	3/30	26	5.4	15.2	9.5
NORTHEAST ENTRANCE PILL.	7400	3/30	SP	5.3	13.5	9.3
NOTCH	8500	4/03	50	12.4	16.0	16.3
OLD FAITHFUL(WY)	7360	3/31	25	5.2	22.0	-
OPHIR PARK	7150	4/01	49	14.0	25.2	-
PALISADE CREEK	8250	4/01	54	14.3	35.4	31.4
PETERSON MEADOWS	7200	3/31	32	7.7	16.2	10.1
PETERSON MEADOWS PILLOW	7200	3/31	SP	7.1	16.6	-
PICKET PIN D	9450	4/05	69	20.0A	33.0	-
PICKET PIN LOWER	6200	3/31	3	.2	4.3	-
PICKET PIN MIDDLE	7250	3/31	32	8.4	21.5	-
PICKET PIN UPPER	8100	3/31	43	11.9	27.6	-
PICNIC GROUNDS	6200	4/03	16	3.1	6.0	4.6
PIPESTONE PASS	7200	4/02	24	4.2	8.7	6.2
PLACER BASIN F	8800	4/05	57	16.0A	25.5	-
POORMAN CREEK	5100	3/31	59	20.5	39.3	38.0
POORMAN CREEK PILLOW	5100	3/31	SP	19.6	35.7	32.1
PORCUPINE	6500	3/31	38	9.0	8.8	8.1
PORCUPINE PILLOW	6500	3/31	SP	7.9	-	-
POTOMAGETON PARK	7150	3/30	31	8.2	18.0	15.3
RED MOUNTAIN	6000	4/01	38	8.3	22.1	20.1
RED TOP	5260	3/28	52	14.1	-	-
ROCK CREEK MEADOWS	8160	3/31	61	17.9	27.8	-
ROCKER PEAK	8000	3/28	34	8.3	20.4	16.7
ROCKER PEAK PILLOW	8000	3/28	SP	8.3	19.2	16.7
ROCKY BOY	4700	4/01	24	6.4	2.2	4.7
ROCKY BOY PILLOW	4700	4/01	SP	3.0	3.9	5.1
SACAJAWEA	6550	3/30	55	16.0	17.1	15.3
SADDLE MOUNTAIN	7940	3/30	52	12.4	33.8	26.4
SADDLE MOUNTAIN PILLOW	7940	3/30	SP	13.0	33.0	28.2
SAWTELL MOUNTAIN (ID)	8710	3/31	53	13.7	36.9	35.3
SENTINEL CREEK	8300	3/30	46	13.2	27.3	24.6
SHOWER FALLS	8100	3/28	76	24.0	30.1	26.1
SHOWER FALLS PILLOW	8100	3/28	SP	21.2	29.2	26.3
SILVER RUN	6630	3/31	34	5.9	6.4	-
SILVER RUN PILLOW	6630	3/31	SP	5.4	-	-
SKALKAHO SUMMIT	7260	3/31	50	14.6	35.2	27.4
SKALKAHO SUMMIT PILLOW	7260	3/31	SP	11.3	-	-
SLAG-A-MELT LAKE	8750	3/31	46	11.9	35.6	27.8
SLIDE ROCK MOUNTAIN	7100	3/29	51	12.2	25.0	18.0
SMUGGLER MINE	6960	3/31	27	5.7	9.9	11.1

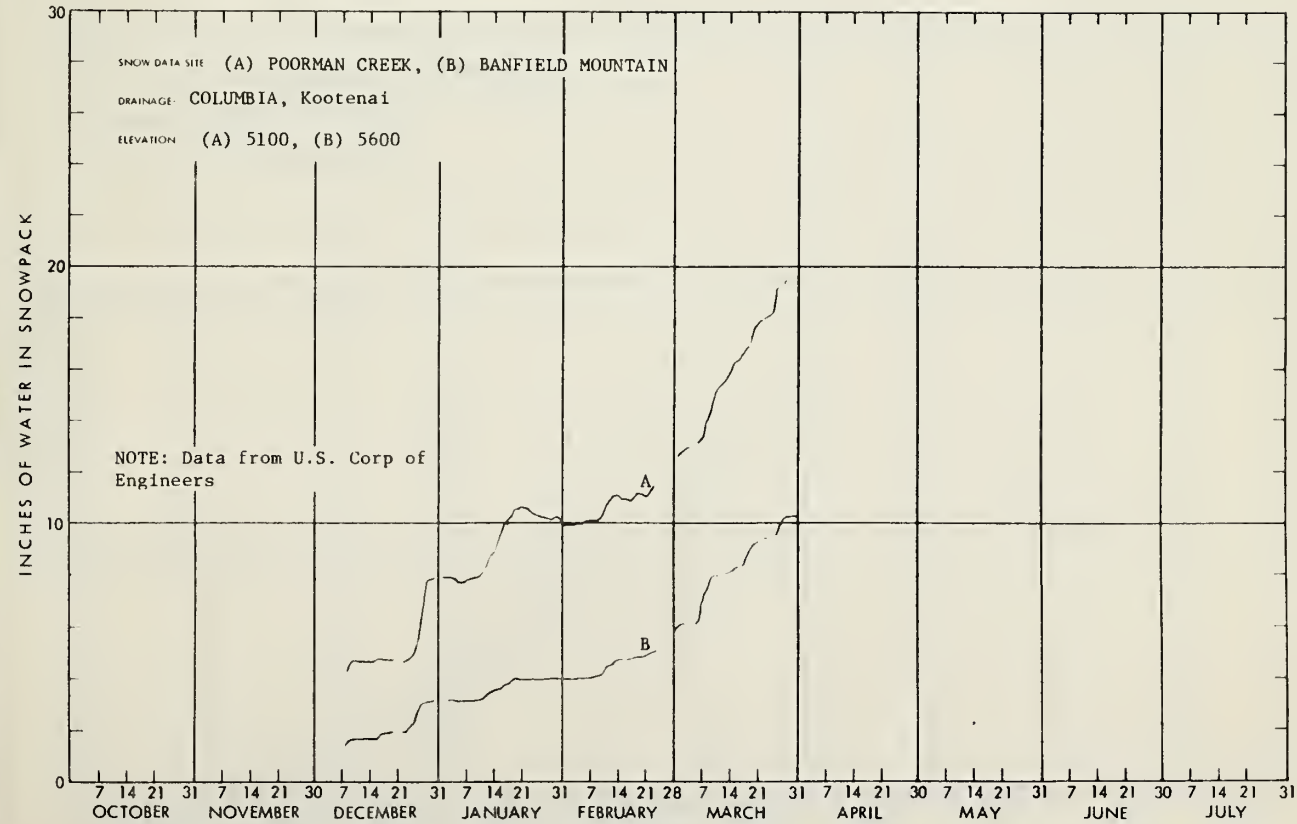
Average based On 1958-72 period. A - Aeriol observation; water content estimated.
SP - Snow Pillow observation; water content only.

SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
					Water Content (inches)	
NAME	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average
SOUTH FORK SHIELDS	8100	4/05	82	26.8	26.9	26.1
SPOTTED BEAR MOUNTAIN	7000	4/02	42	13.2	17.6	15.8
SPUR PARK	8000	3/29	63	18.6	23.2	23.8
SPUR PARK PILLOW	8100	3/29	SP	19.5	23.7	23.5
STAHL PEAK	6050	3/28	78	24.2	43.1	41.4
STAHL PEAK PILLOW	6050	3/28	SP	19.5	34.0	-
STAR LAKE E	9650	4/05	81	26.0A	50.5	-
STEMPLE PASS	6600	3/31	41	8.8	13.6	11.4
STORM LAKE	7780	3/31	40	9.6	20.9	15.0
STRYKER BASIN	6180	3/24	64	20.4	-	-
STUART MILL	6500	4/03	19	5.2	9.3	7.5
STUART MOUNTAIN	7400	3/31	62	19.2	43.3	34.2
SUCKER CREEK	3960	3/31	12	1.6	.0	-
SUGARLOAF	7350	4/01	33	8.2	13.4	-
TARGHEE PASS (ID)	7000	3/31	28	6.1	19.3	16.2
TAYLOR ROAD	4080	3/31	21	5.0	.0	-
TEN MILE LOWER	6600	3/30	32	5.6	8.8	7.8
TEN MILE MIDDLE	6800	3/30	42	7.6	16.2	12.6
TEN MILE UPPER	8000	3/30	47	8.9	16.3	15.0
TEPEE CREEK	8000	3/31	26	7.0	19.0	16.4
TEPEE CREEK PILLOW	8000	3/31	SP	6.0	14.7	-
THUMB DIVIDE (WY)	7900	3/29	32	6.8	24.8	22.2
TIMBERLINE CREEK	8850	4/01	51	9.6	18.2	16.1
TRAIL CREEK	7090	4/03	23	4.4	12.8	9.0
TRINKUS LAKE	6100	4/02	108	38.3	43.1	46.5
TV MOUNTAIN	6800	4/05	41	11.4	23.0	20.3
TWELVEMILE CREEK	5600	3/31	47	14.4	31.6	21.1
TWELVEMILE CREEK PILLOW	5600	3/31	SP	12.8	25.7	18.6
TWENTY-ONE MILE	7150	3/30	31	7.8	24.8	17.9
TWIN CREEKS	3580	4/02	32	11.2	13.5	11.7
TWIN LAKES	6510	3/31	79	23.8	57.8	43.7
TWIN LAKES PILLOW	6400	3/31	SP	23.3	55.1	42.7
UPPER HOLLAND LAKE	6200	4/02	88	29.8	42.8	38.3
VALLEY VIEW (ID)	6500	3/31	25	6.3	21.6	17.7
WALDRON	5600	4/03	31	7.2	10.4	12.2
WALDRON PILLOW	5600	4/03	SP	6.5	7.8	12.1
WEASEL DIVIDE	5450	3/28	58	17.0	39.6	36.4
WEST YELLOWSTONE	6700	3/31	20	5.0	17.7	11.4
WHISKEY CREEK	6800	3/31	32	8.8	28.4	22.1
WHISKEY CREEK PILLOW	6800	3/31	SP	7.8	22.6	-
WHITE ELEPHANT (ID)	7700	3/31	38	10.2	30.4	-
WHITE MILL	8700	3/31	58	15.8	36.2	27.7
WHITE MILL PILLOW	8700	3/31	SP	15.6	31.9	-
WHITE PINE RIDGE	8850	4/03	21	3.9	7.2	5.7
WILLOW CREEK	6500	3/31	32	7.1	11.0	-
WOLVERINE (WY)	7650	3/30	26	5.8	18.6	-
WRONG CREEK	5700	3/31	32	7.2	14.2	16.2
WRONG RIDGE	6800	3/31	44	11.5	24.2	22.0

Average based On 1958-72 period. A - Aerial observation; water content estimated.
SP - Snow Pillow observation; water content only.


SNOW DATA SITE (A) STAHL PEAK, (B) GRAVE CREEK
DRAINAGE COLUMBIA, Kootenai
ELEVATION (A) 6030, (B) 4300
INCHES OF WATER IN SNOWPACK
30
20
10
0
A
B
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY


SNOW DATA SITE (A) POORMAN CREEK, (B) BANFIELD MOUNTAIN
DRAINAGE COLUMBIA, Kootenai
ELEVATION (A) 5100, (B) 5600
NOTE: Data from U.S. Corp of Engineers
INCHES OF WATER IN SNOWPACK
30
20
10
0
A
B
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY

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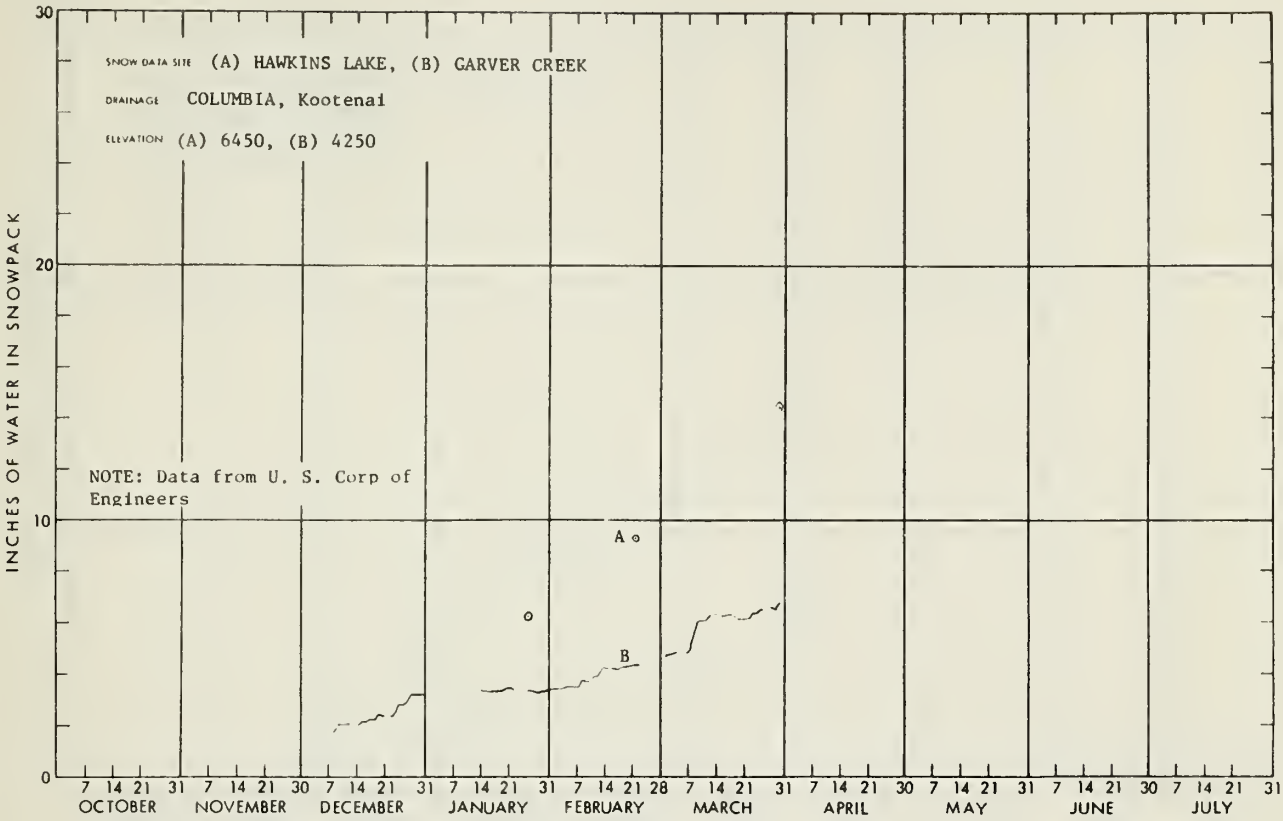

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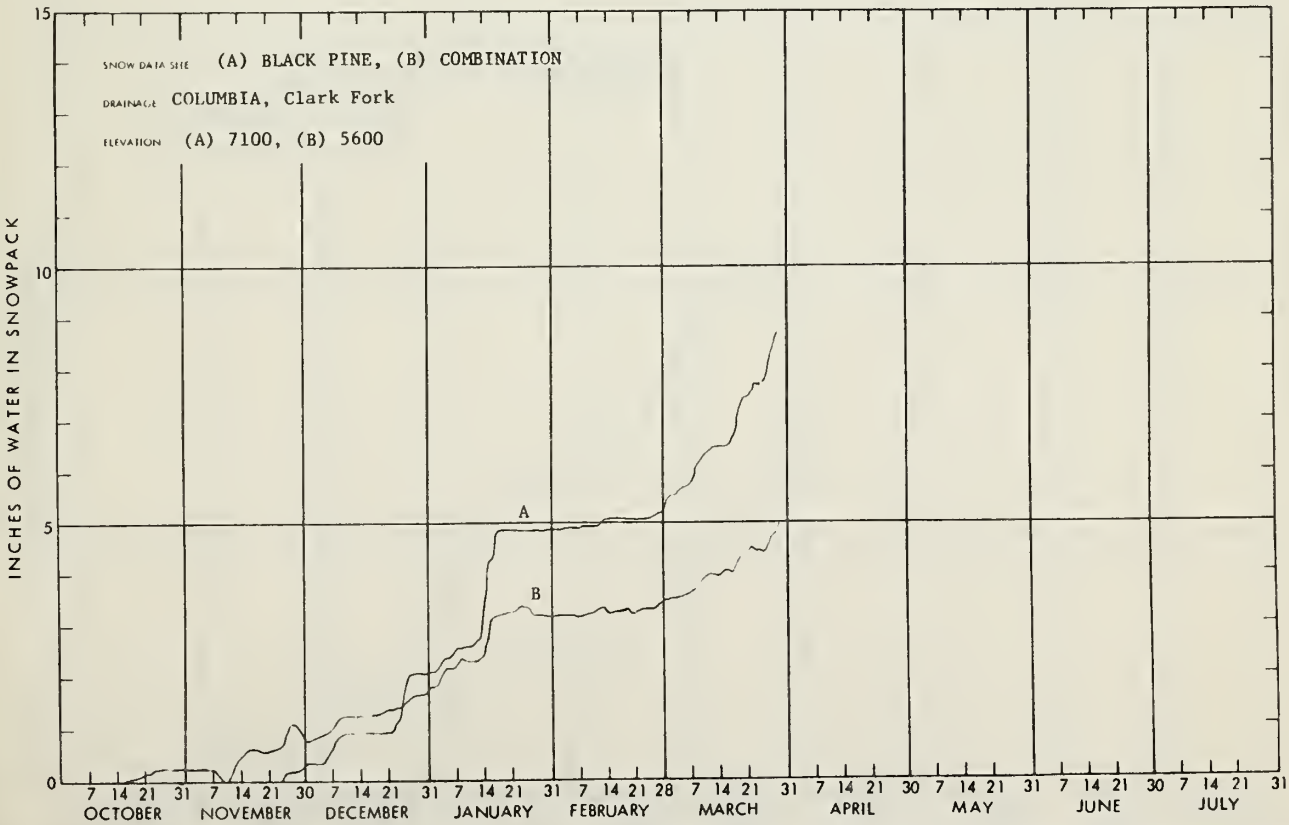
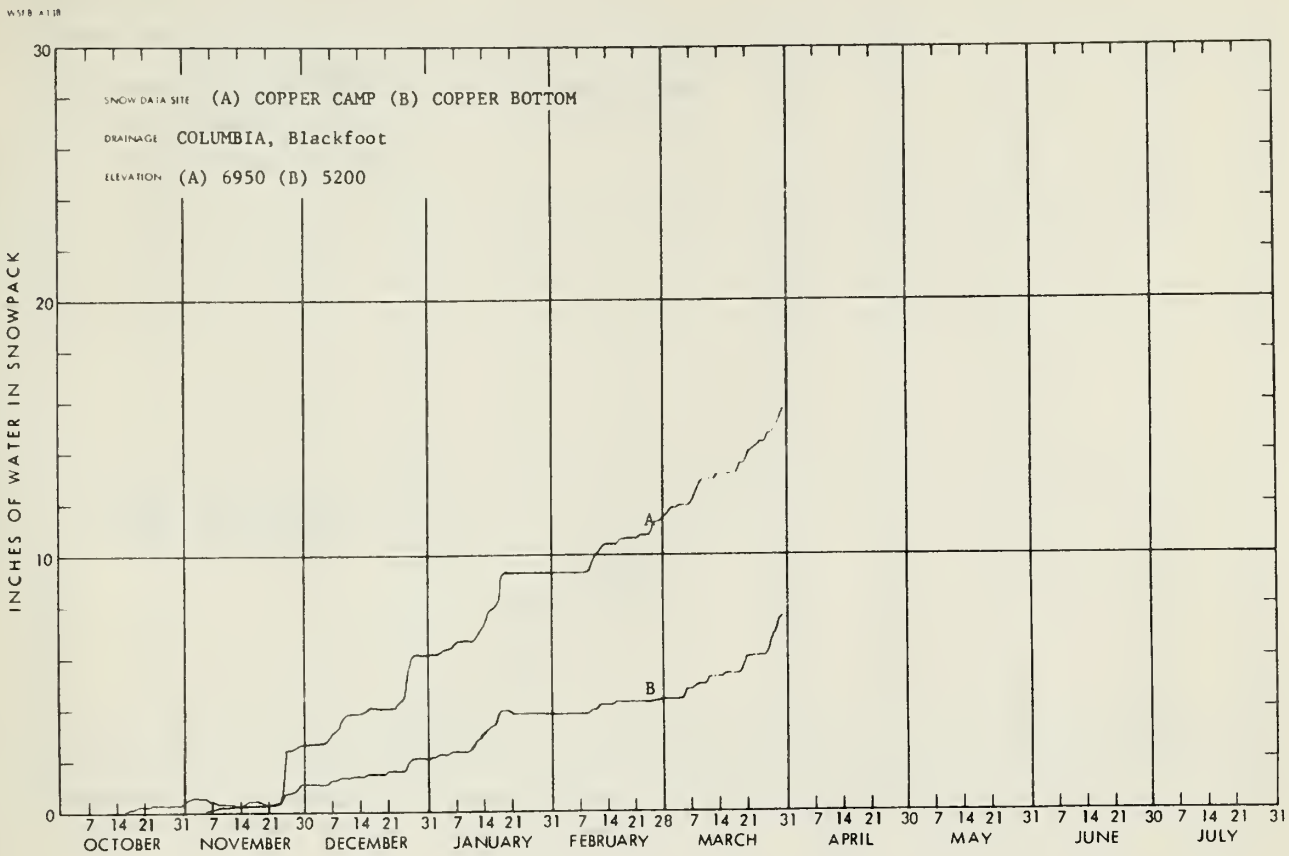
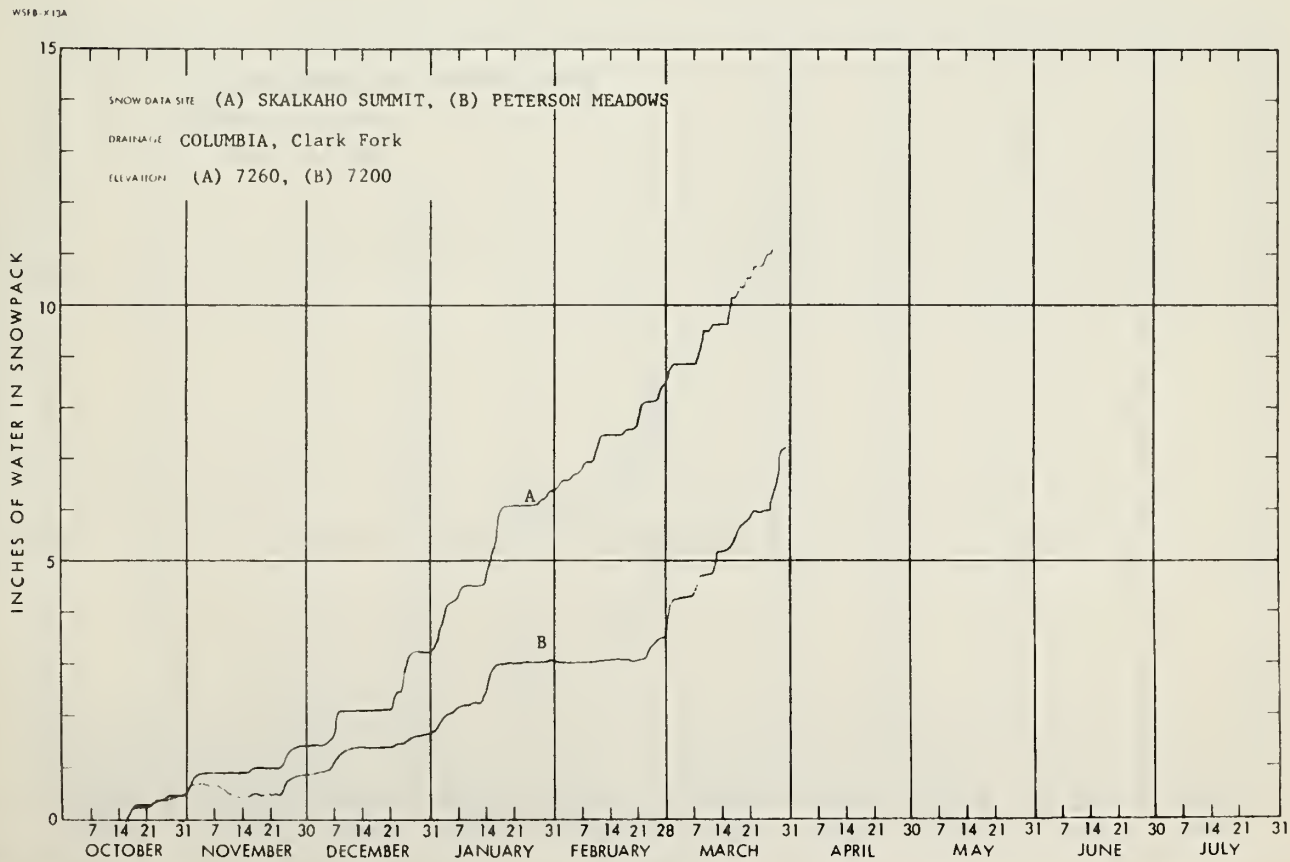
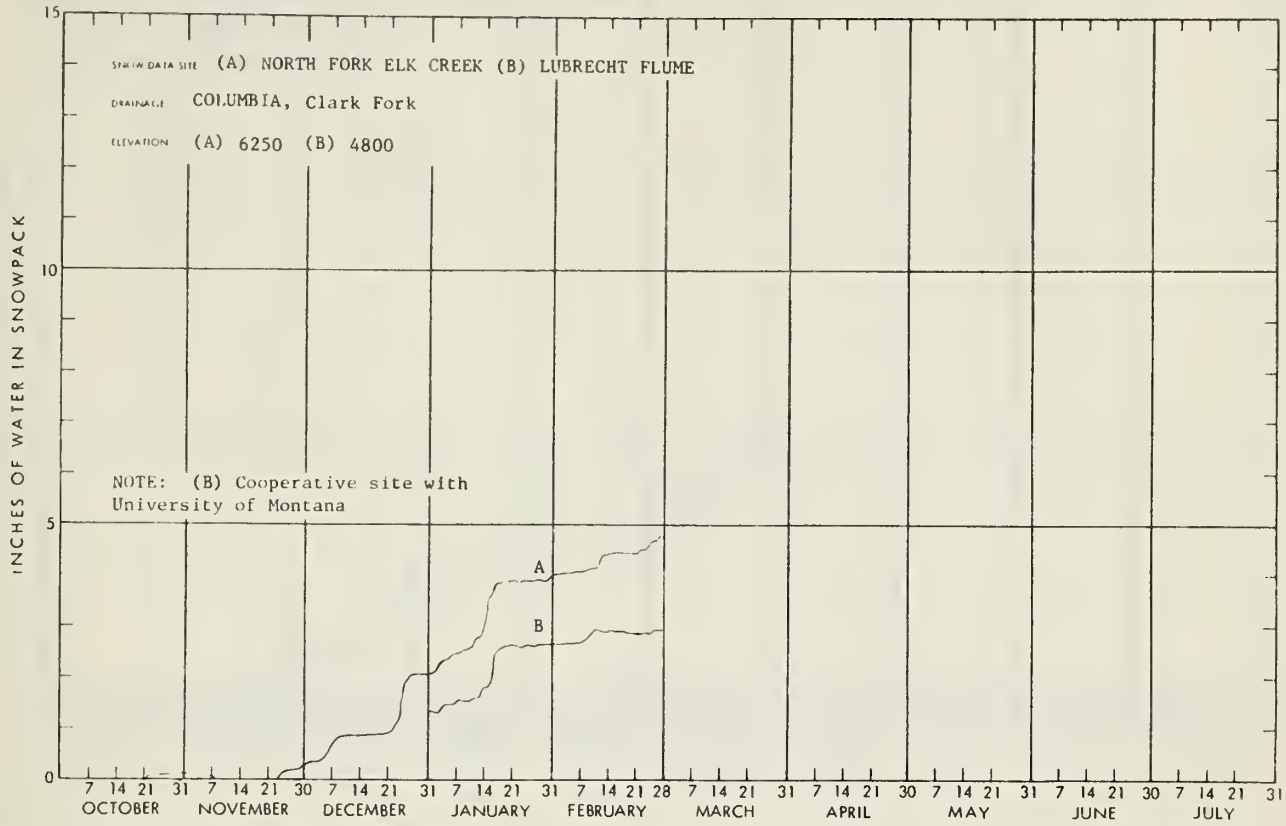
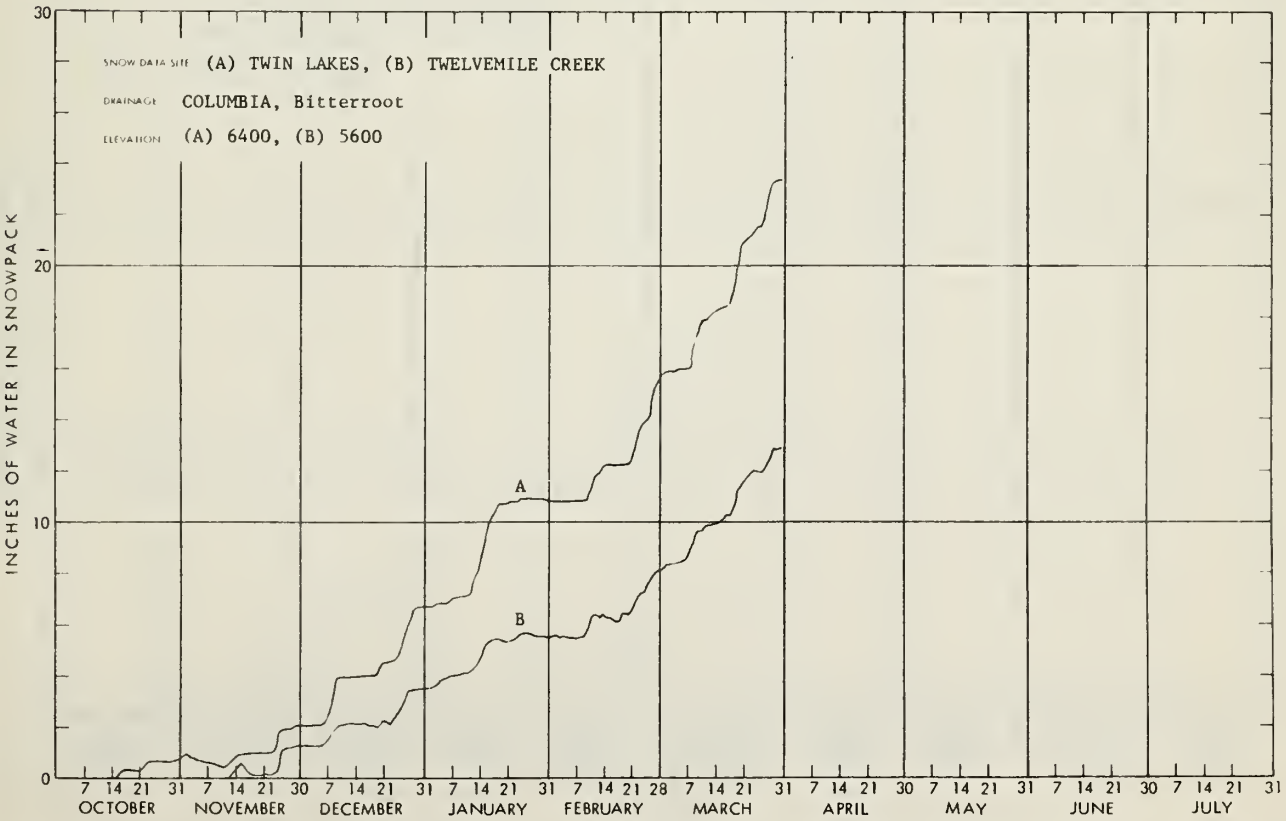
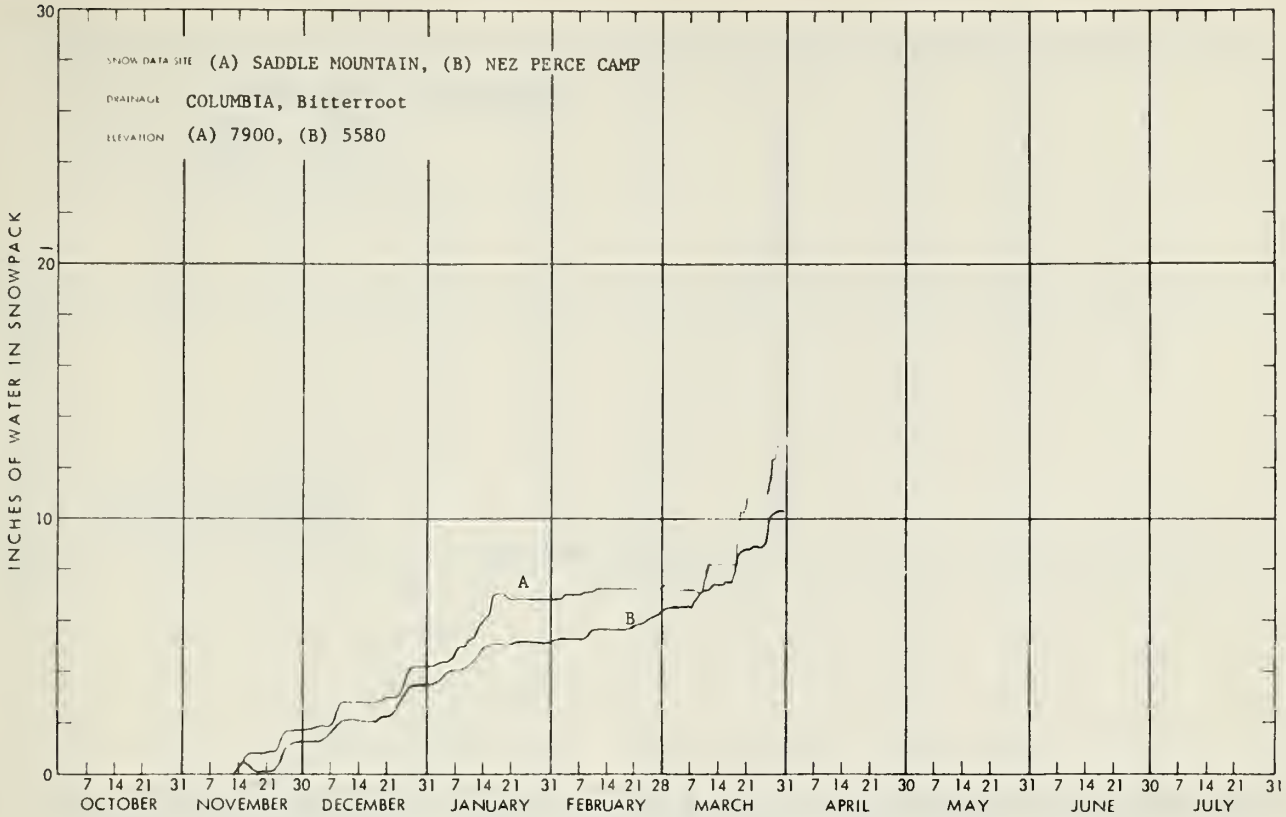



SNOW DATA SITE (A) COPPER CAMP (B) COPPER BOTTOM
DRAINAGE COLUMBIA, Blackfoot
ELEVATION (A) 6950 (B) 5200
INCHES OF WATER IN SNOWPACK
30
20
10
0
A
B
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY


SNOW DATA SITE (A) SKALKAHO SUMMIT, (B) PETERSON MEADOWS
DRAINAGE COLUMBIA, Clark Fork
ELEVATION (A) 7260, (B) 7200
INCHES OF WATER IN SNOWPACK
15
10
5
0
A
B
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY


SNOW DATA SITE (A) NORTH FORK ELK CREEK (B) LUBRECHT FLUME
DRAINAGE COLUMBIA, Clark Fork
ELEVATION (A) 6250 (B) 4800
NOTE: (B) Cooperative site with University of Montana
INCHES OF WATER IN SNOWPACK
15
10
5
0
A
B
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY


SNOW DATA SITE (A) TWIN LAKES, (B) TWELVEMILE CREEK
DRAINAGE COLUMBIA, Bitterroot
ELEVATION (A) 6400, (B) 5600
INCHES OF WATER IN SNOWPACK
30
20
10
0
A
B
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY


SNOW DATA SITE (A) SADDLE MOUNTAIN, (B) NEZ PERCE CAMP
DRAINAGE COLUMBIA, Bitterroot
ELEVATION (A) 7900, (B) 5580
INCHES OF WATER IN SNOWPACK
30
20
10
0
A
B
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY

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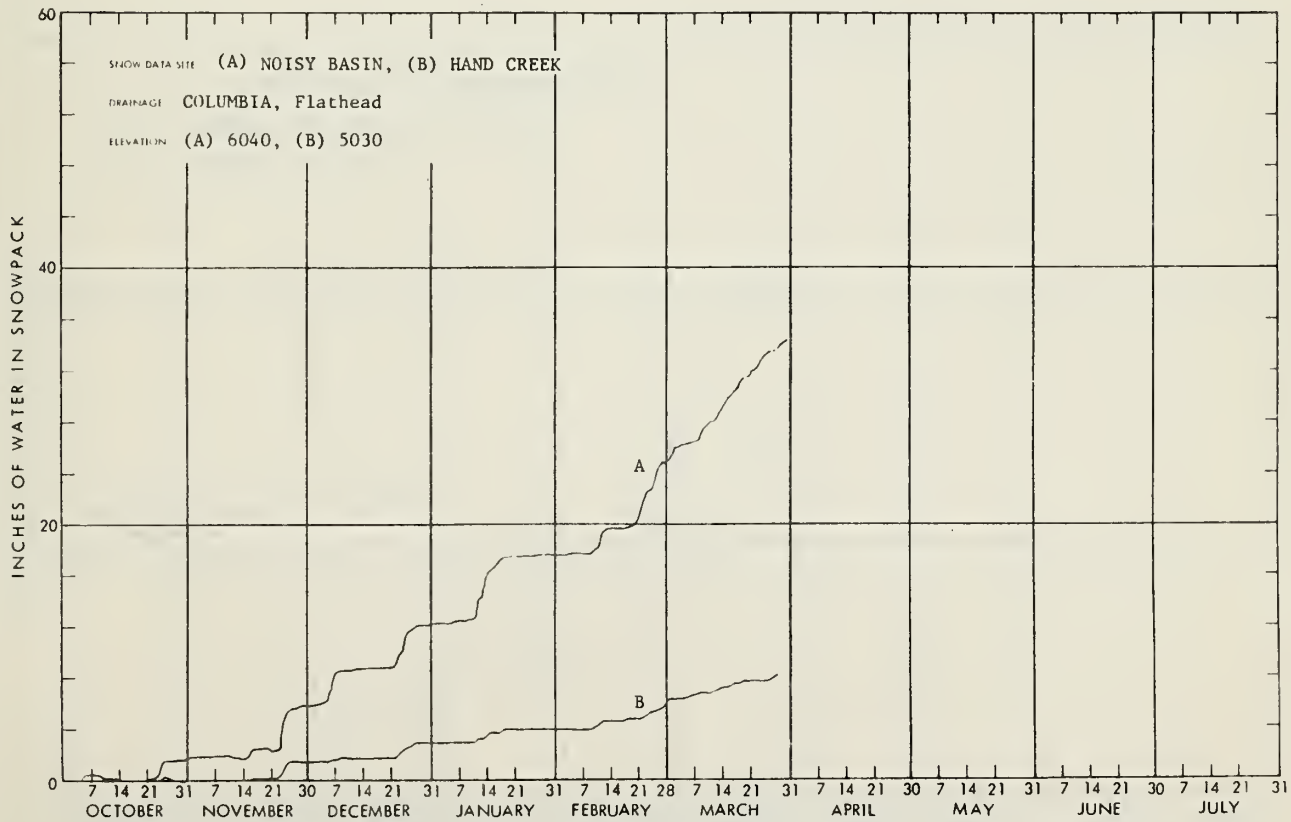
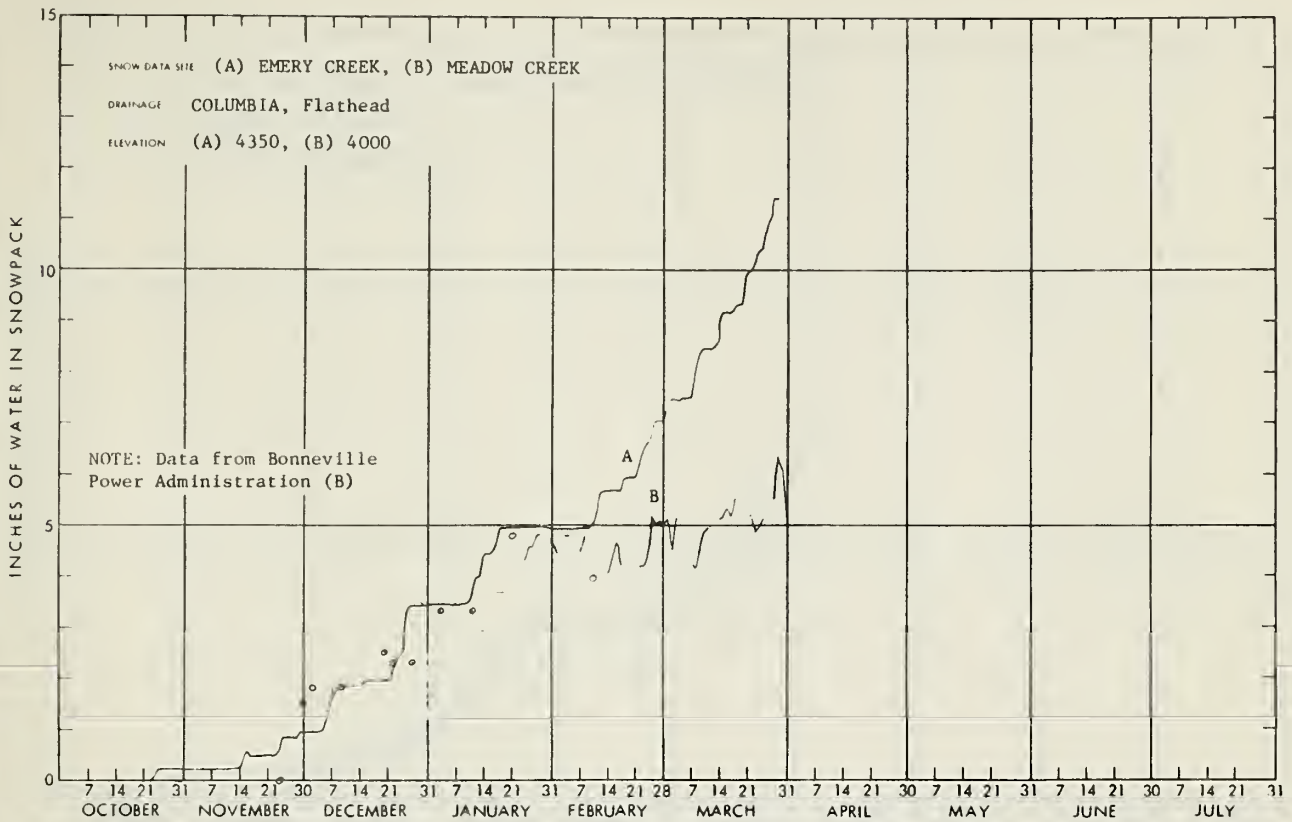
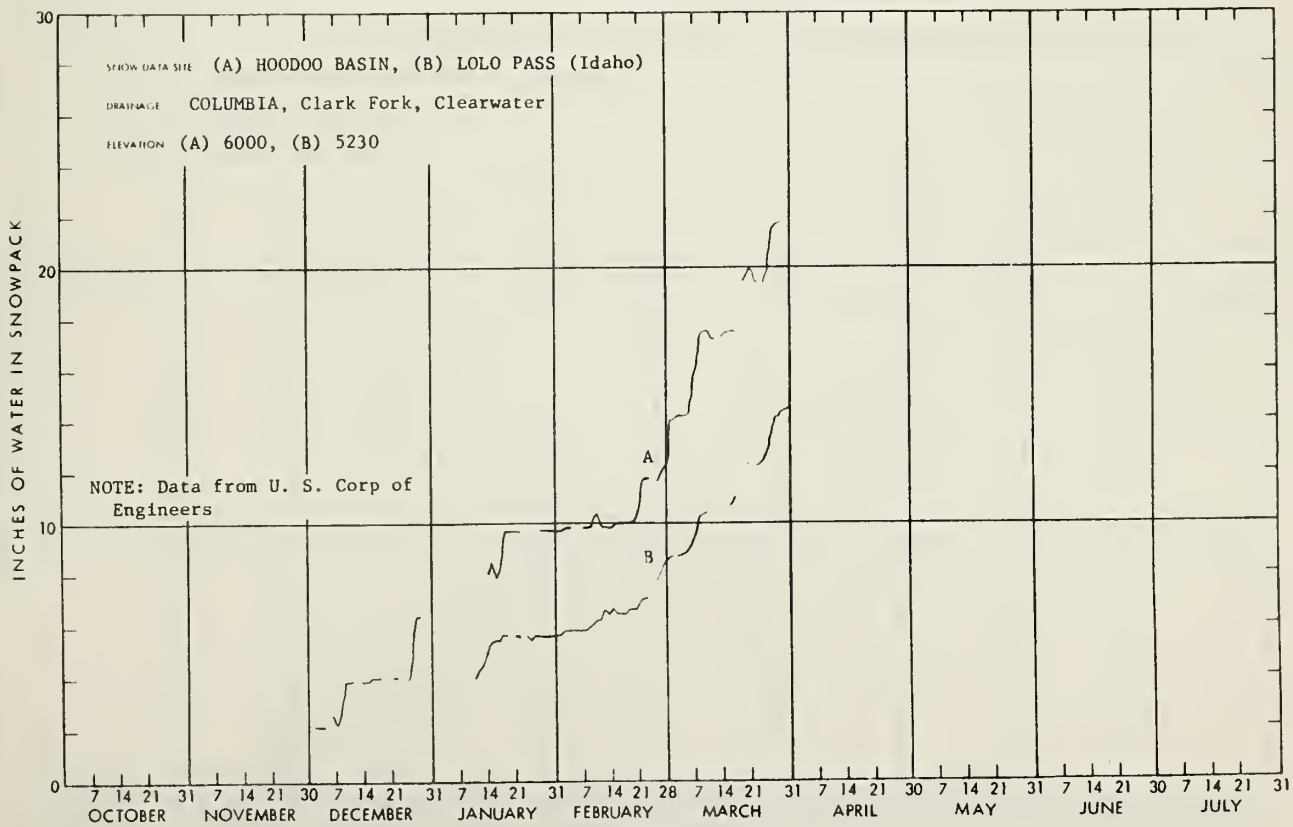
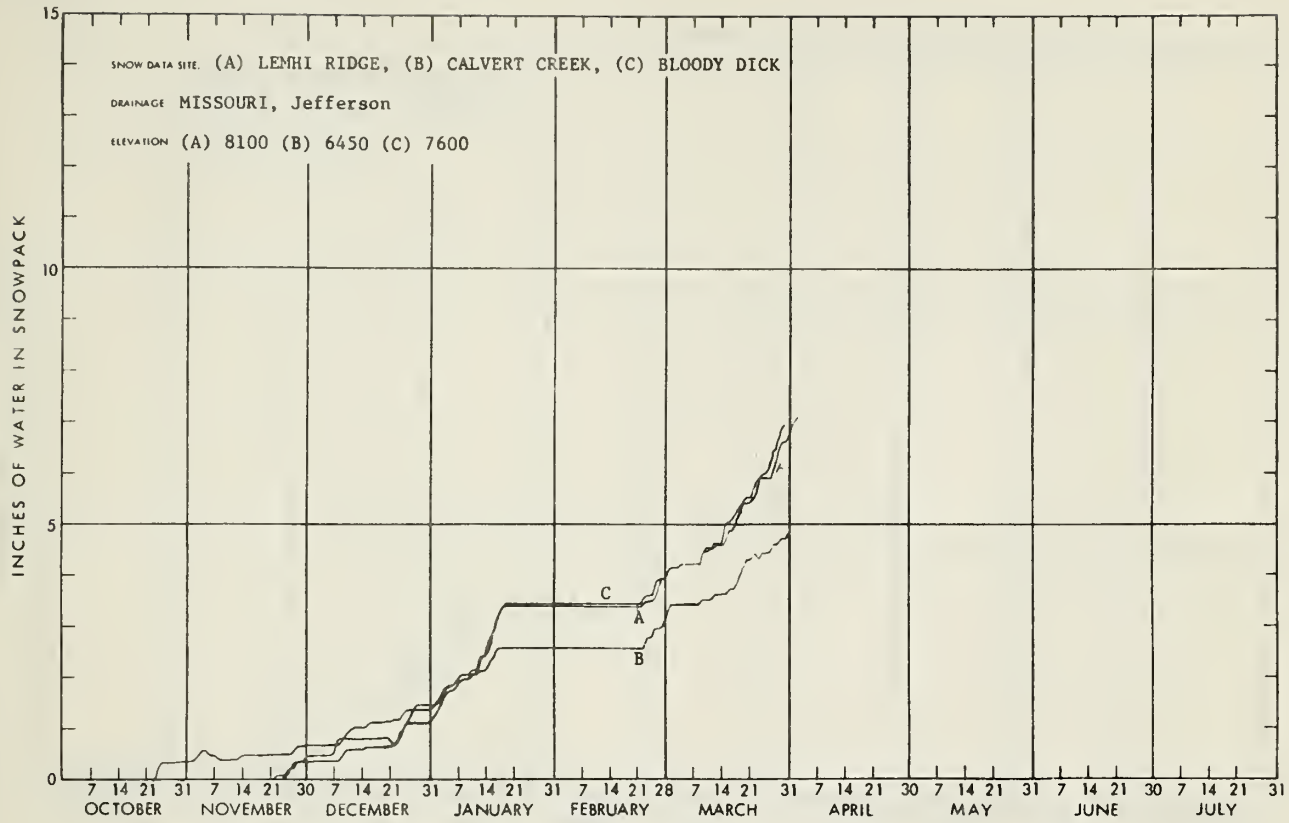

SNOW DATA SITE (A) NOISY BASIN, (B) HAND CREEK
DRAINAGE COLUMBIA, Flathead
ELEVATION (A) 6040, (B) 5030
INCHES OF WATER IN SNOWPACK
60
40
20
0
A
B
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY


SNOW DATA SITE (A) EMERY CREEK, (B) MEADOW CREEK
DRAINAGE COLUMBIA, Flathead
ELEVATION (A) 4350, (B) 4000
NOTE: Data from Bonneville Power Administration (B)
A
B
INCHES OF WATER IN SNOWPACK
0
5
10
15
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY


SNOW DATA SITE (A) HOODOO BASIN, (B) LOLO PASS (Idaho)
DRAINAGE COLUMBIA, Clark Fork, Clearwater
ELEVATION (A) 6000, (B) 5230
NOTE: Data from U. S. Corp of Engineers
A
B
INCHES OF WATER IN SNOWPACK
0
10
20
30
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY

WSFB-X13A



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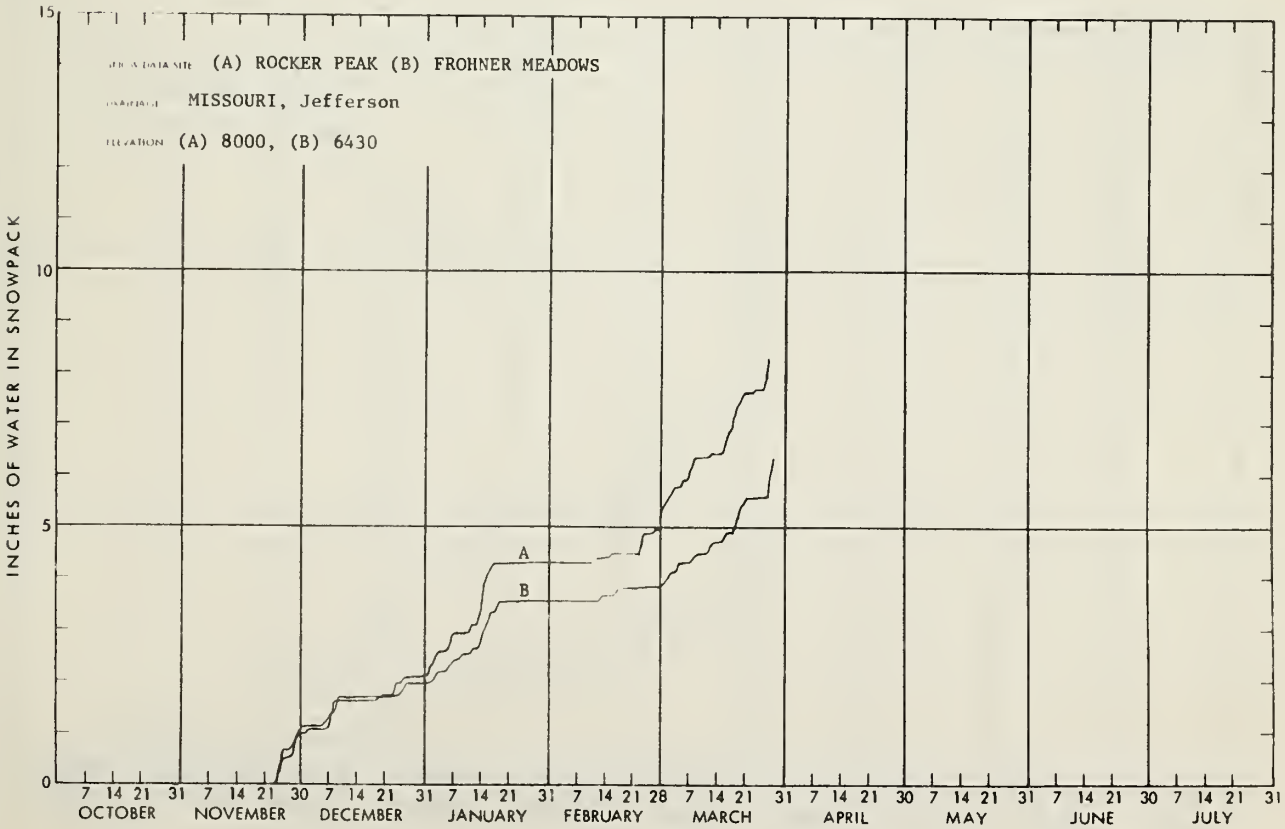

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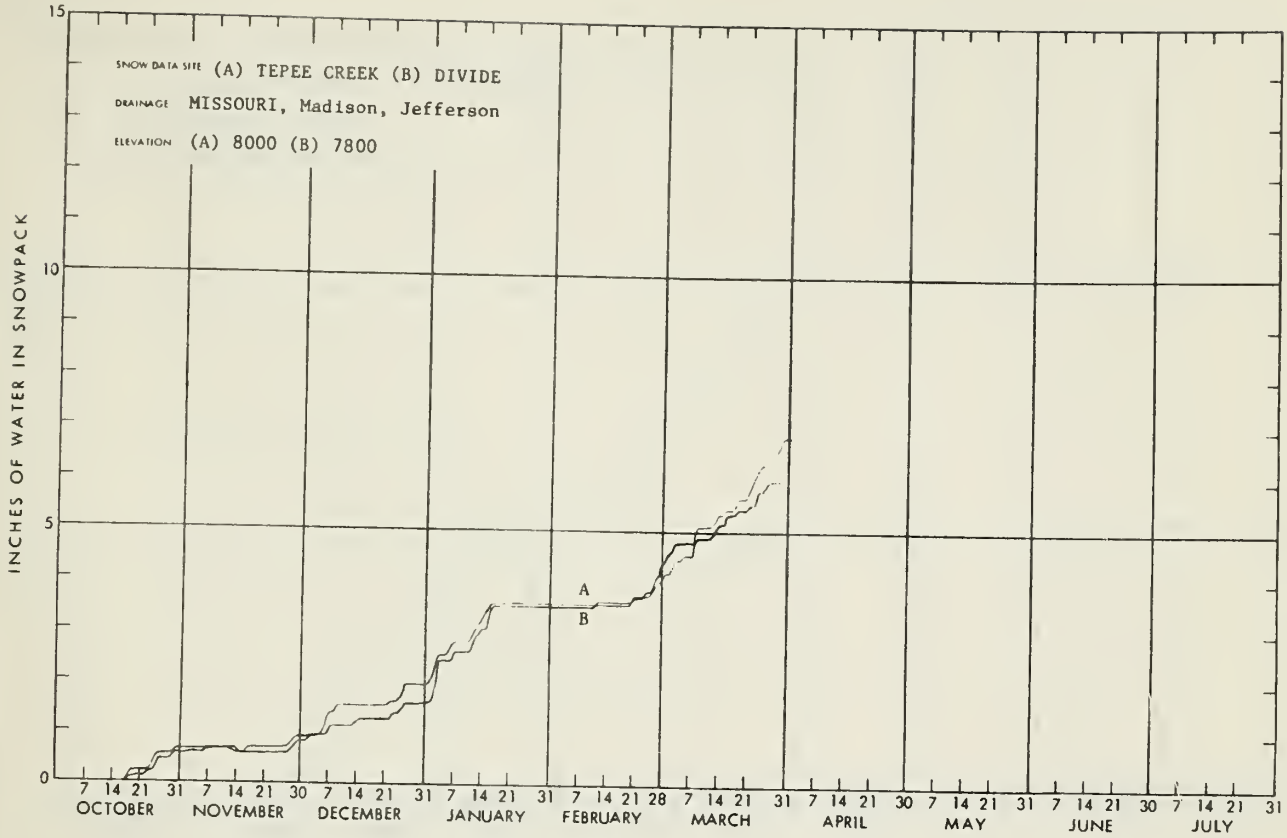

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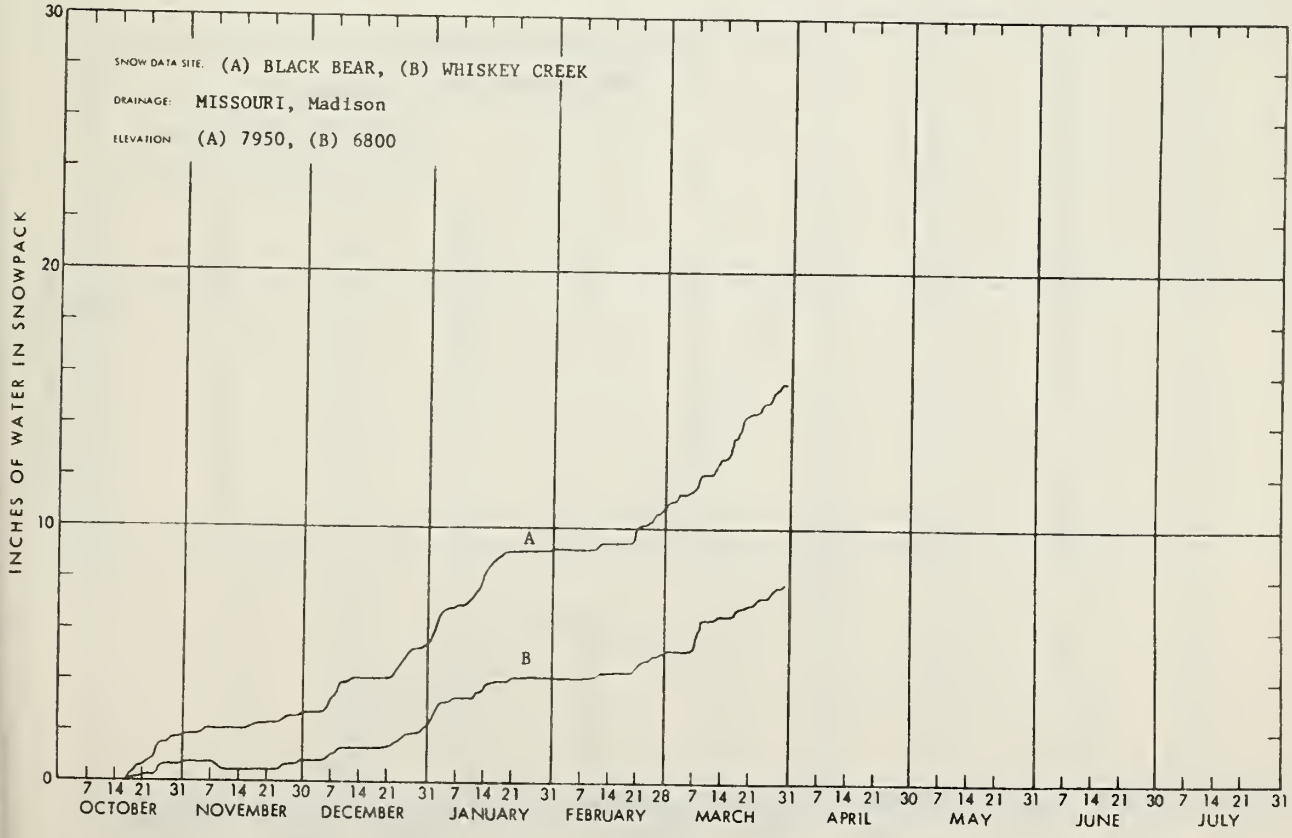

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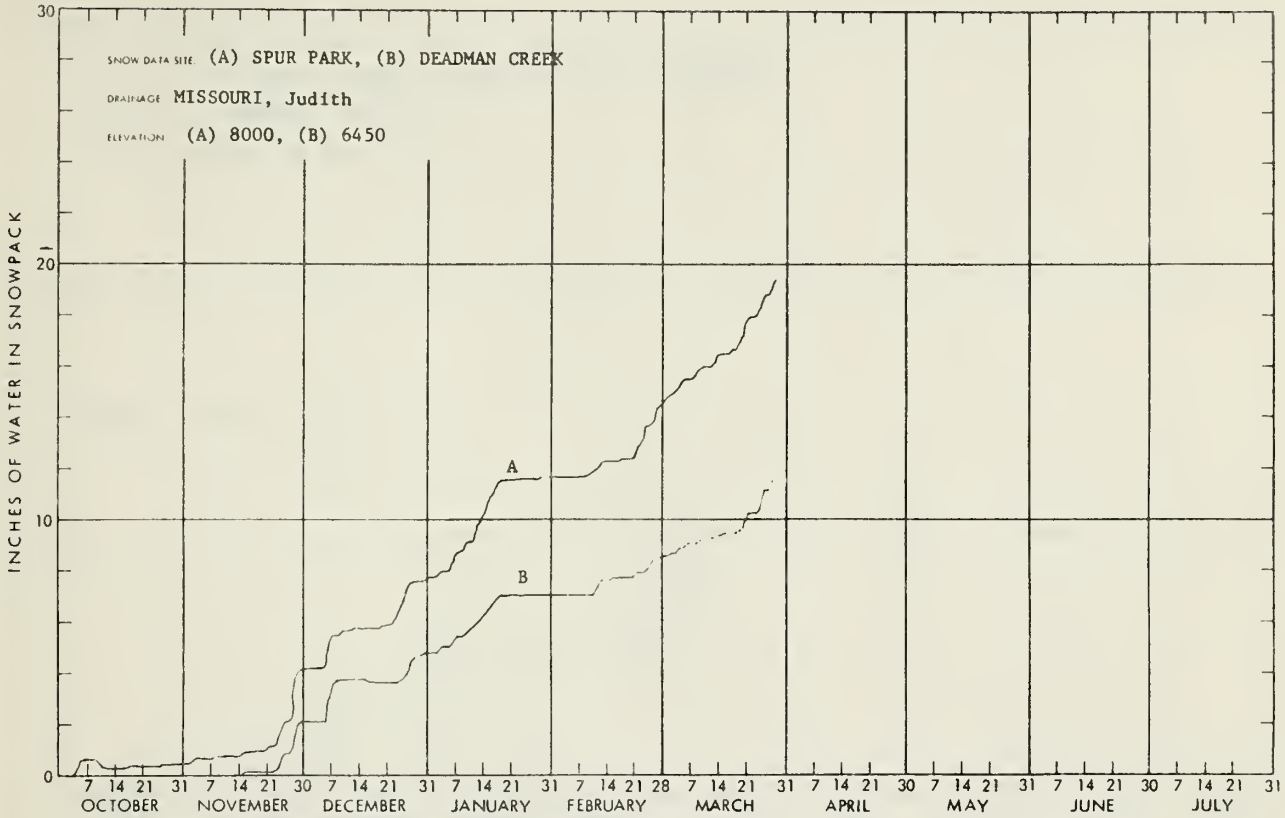

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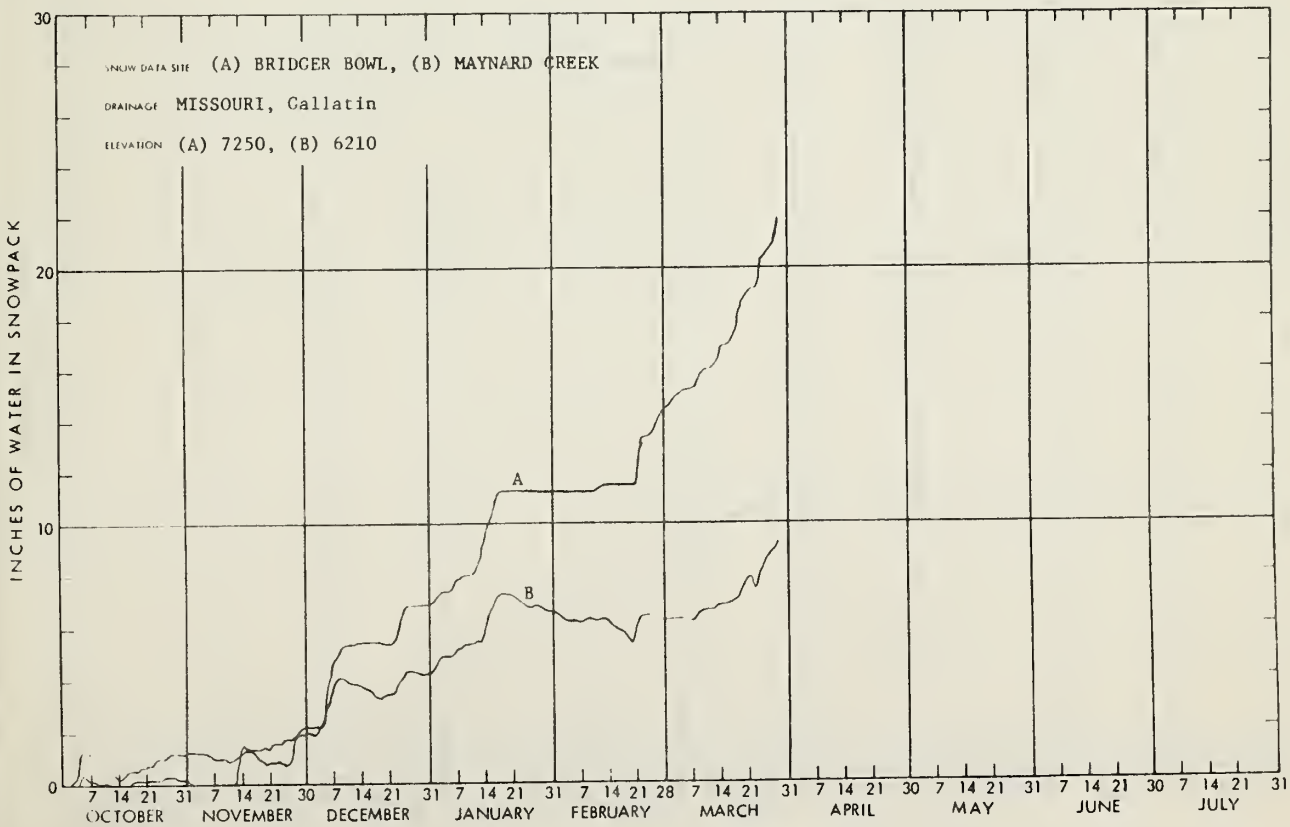
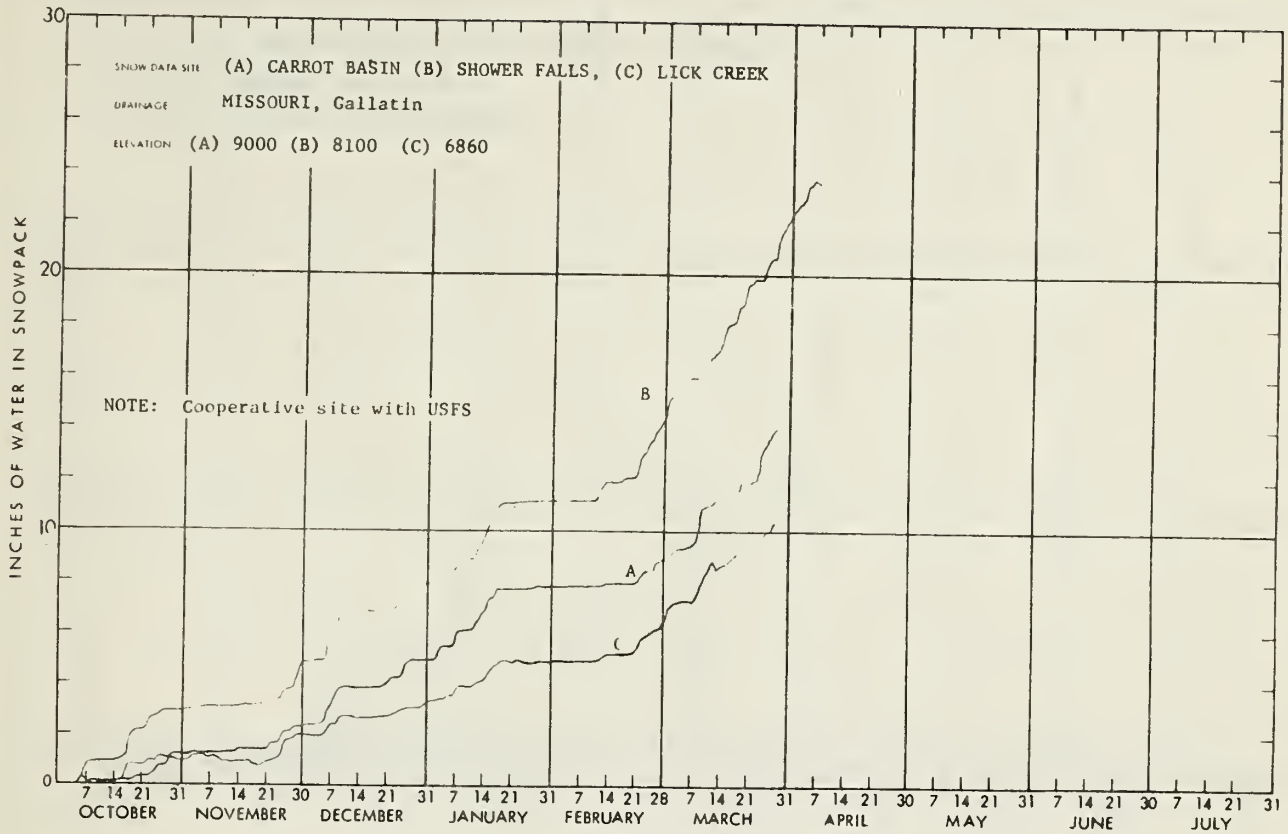
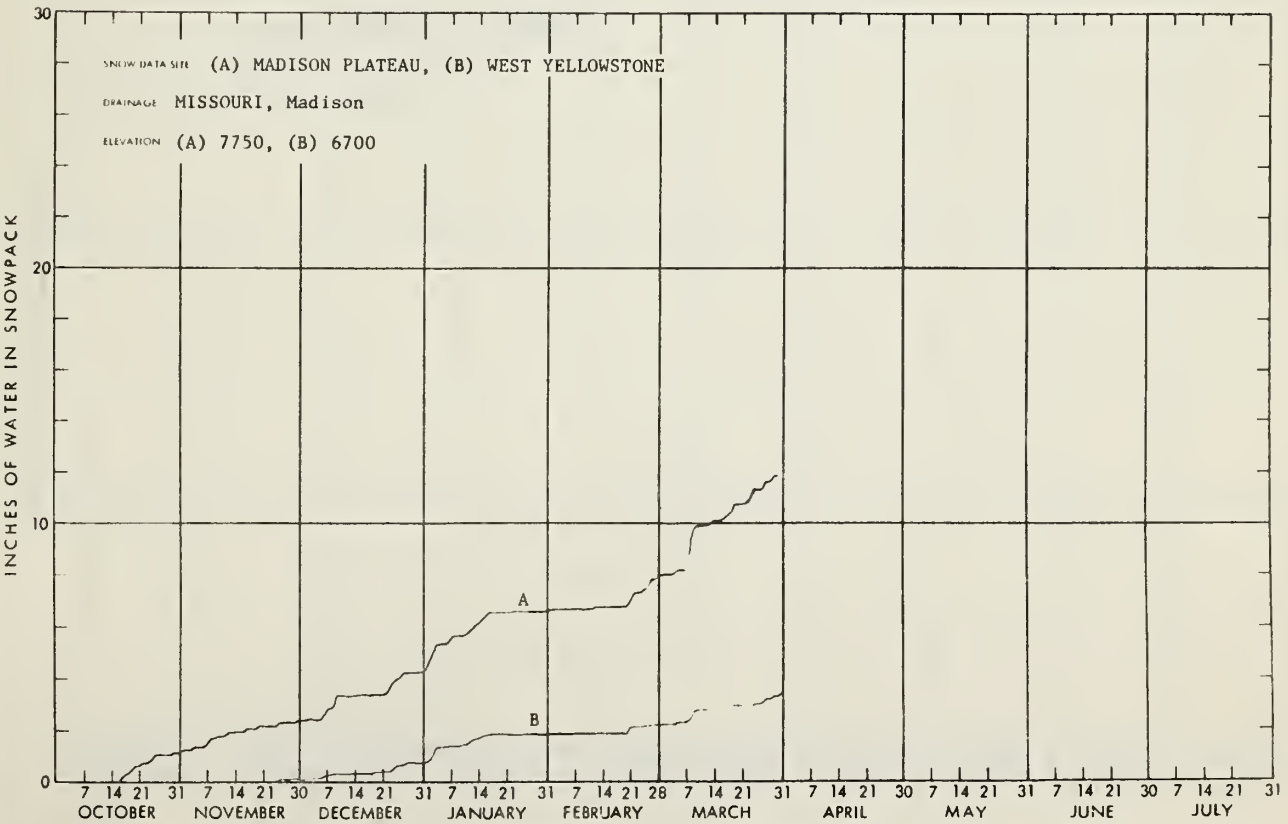
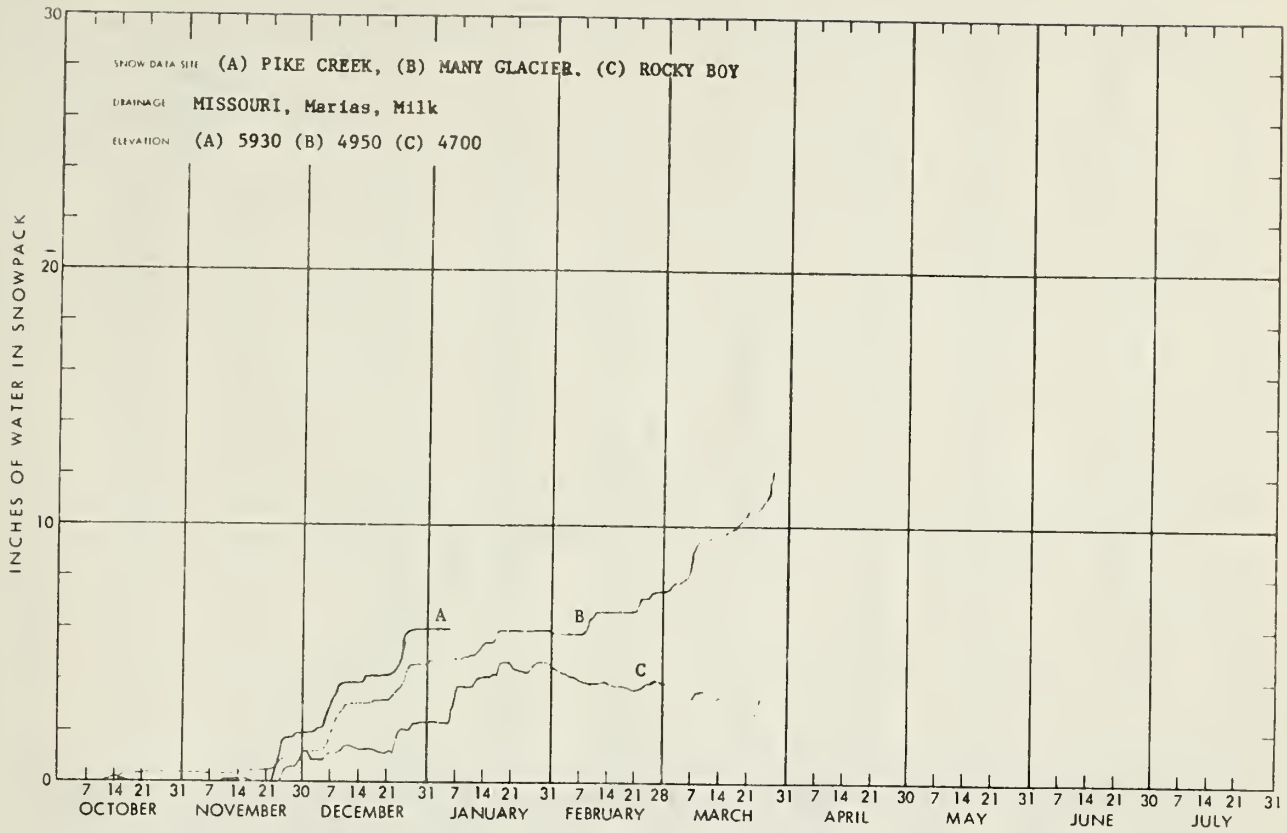
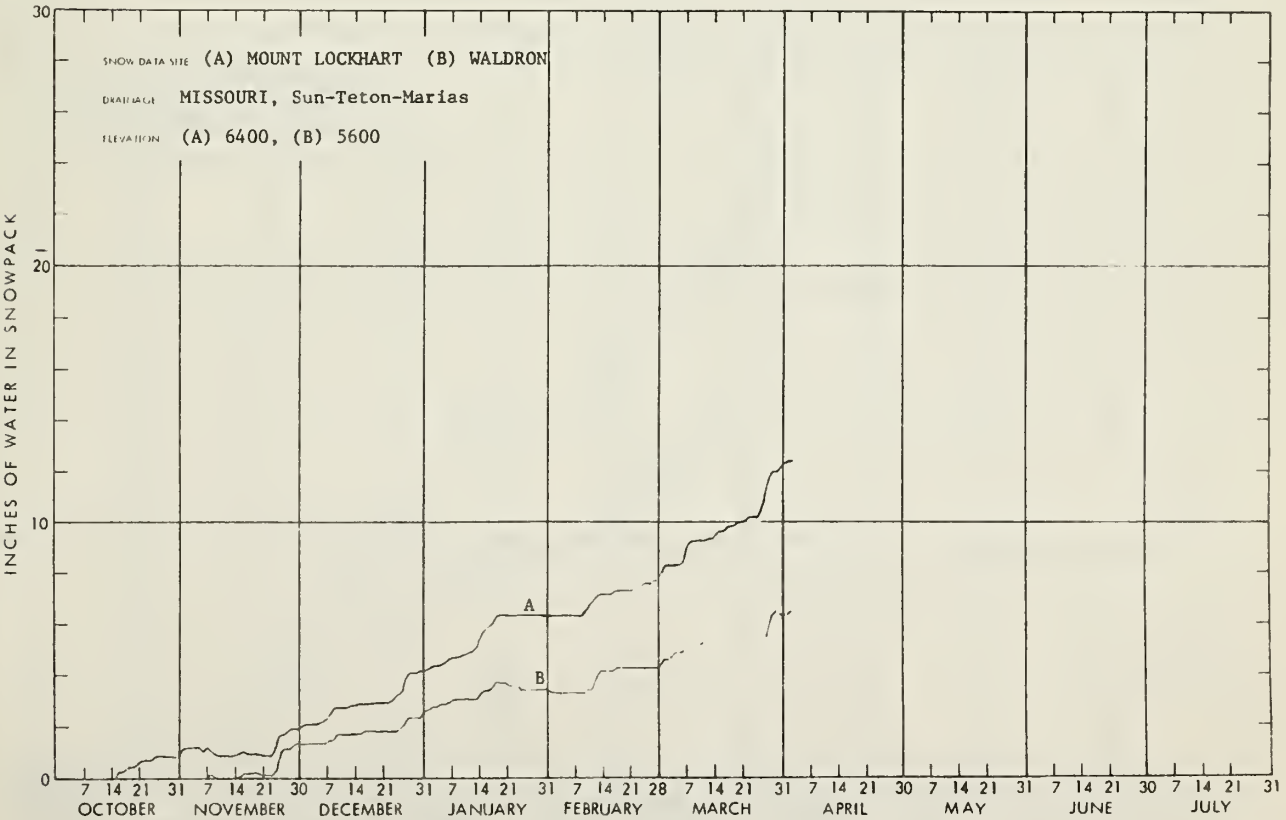



SNOW DATA SITE (A) CARROT BASIN (B) SHOWER FALLS, (C) LICK CREEK
DRAINAGE MISSOURI, Gallatin
ELEVATION (A) 9000 (B) 8100 (C) 6860
NOTE: Cooperative site with USFS
INCHES OF WATER IN SNOWPACK
0
10
20
30
A
B
C
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY


SNOW DATA SITE (A) MADISON PLATEAU, (B) WEST YELLOWSTONE
DRAINAGE MISSOURI, Madison
ELEVATION (A) 7750, (B) 6700
INCHES OF WATER IN SNOWPACK
0
10
20
30
A
B
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY


SNOW DATA SITE (A) PIKE CREEK, (B) MANY GLACIER, (C) ROCKY BOY
DRAINAGE MISSOURI, Marias, Milk
ELEVATION (A) 5930 (B) 4950 (C) 4700
INCHES OF WATER IN SNOWPACK
30
20
10
0
A
B
C
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY


SNOW DATA SITE (A) MOUNT LOCKHART (B) WALDRON
DRAINAGE MISSOURI, Sun-Teton-Marias
ELEVATION (A) 6400, (B) 5600
INCHES OF WATER IN SNOWPACK
30
20
10
0
A
B
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY

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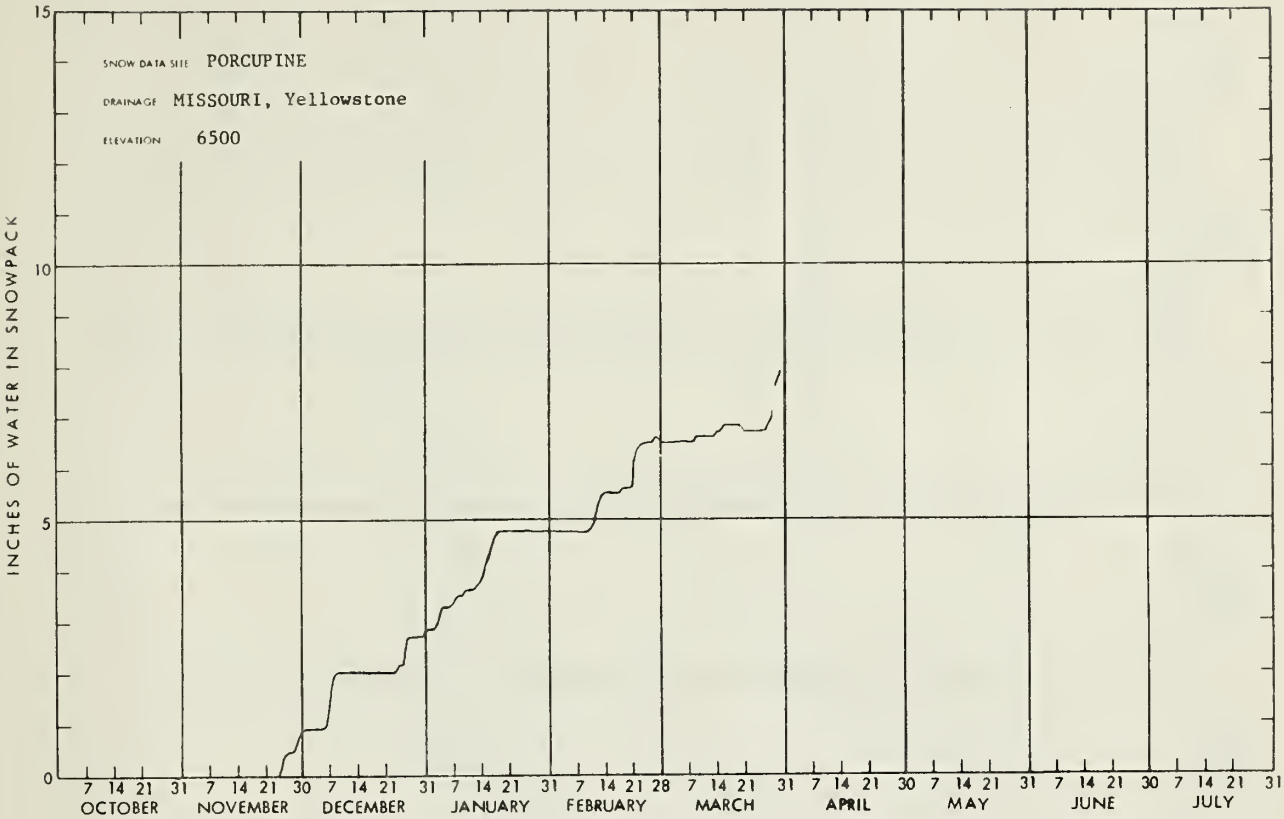

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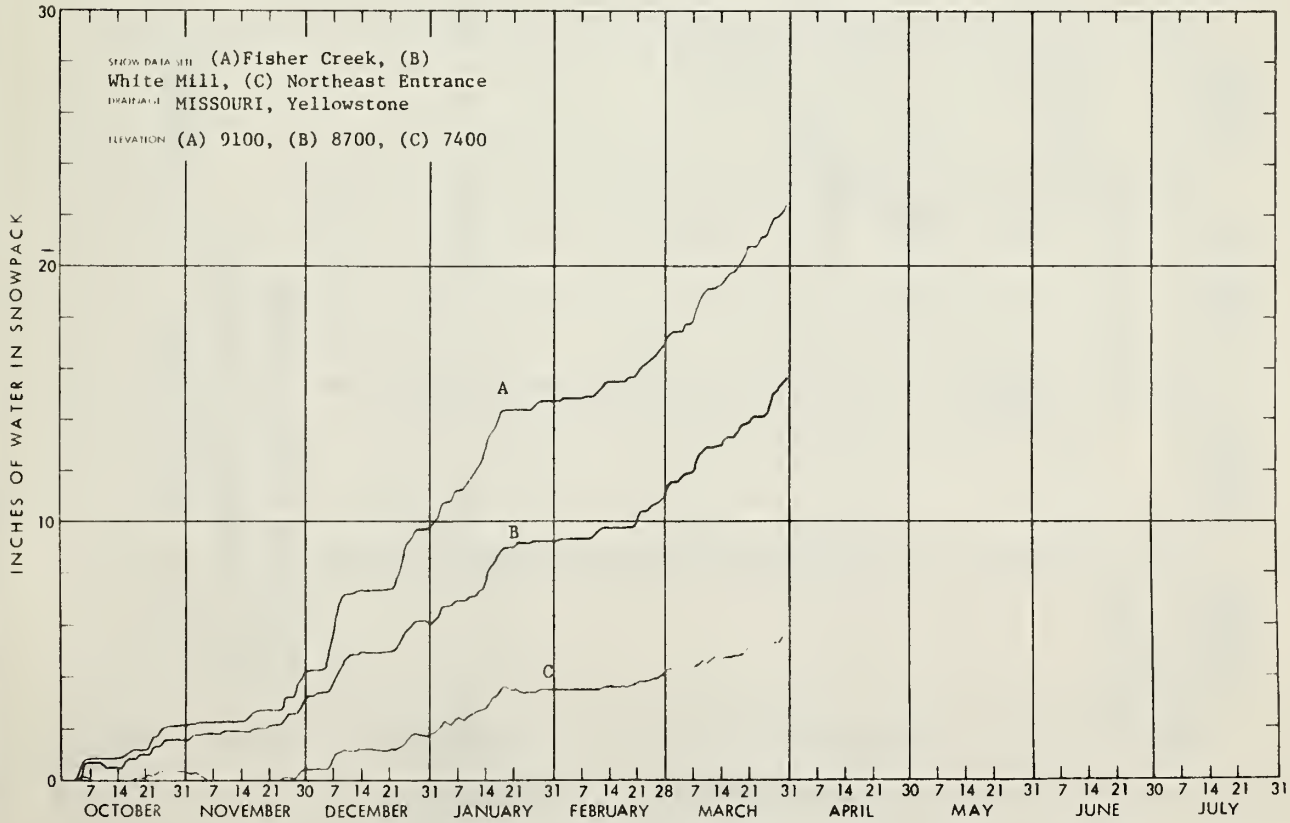

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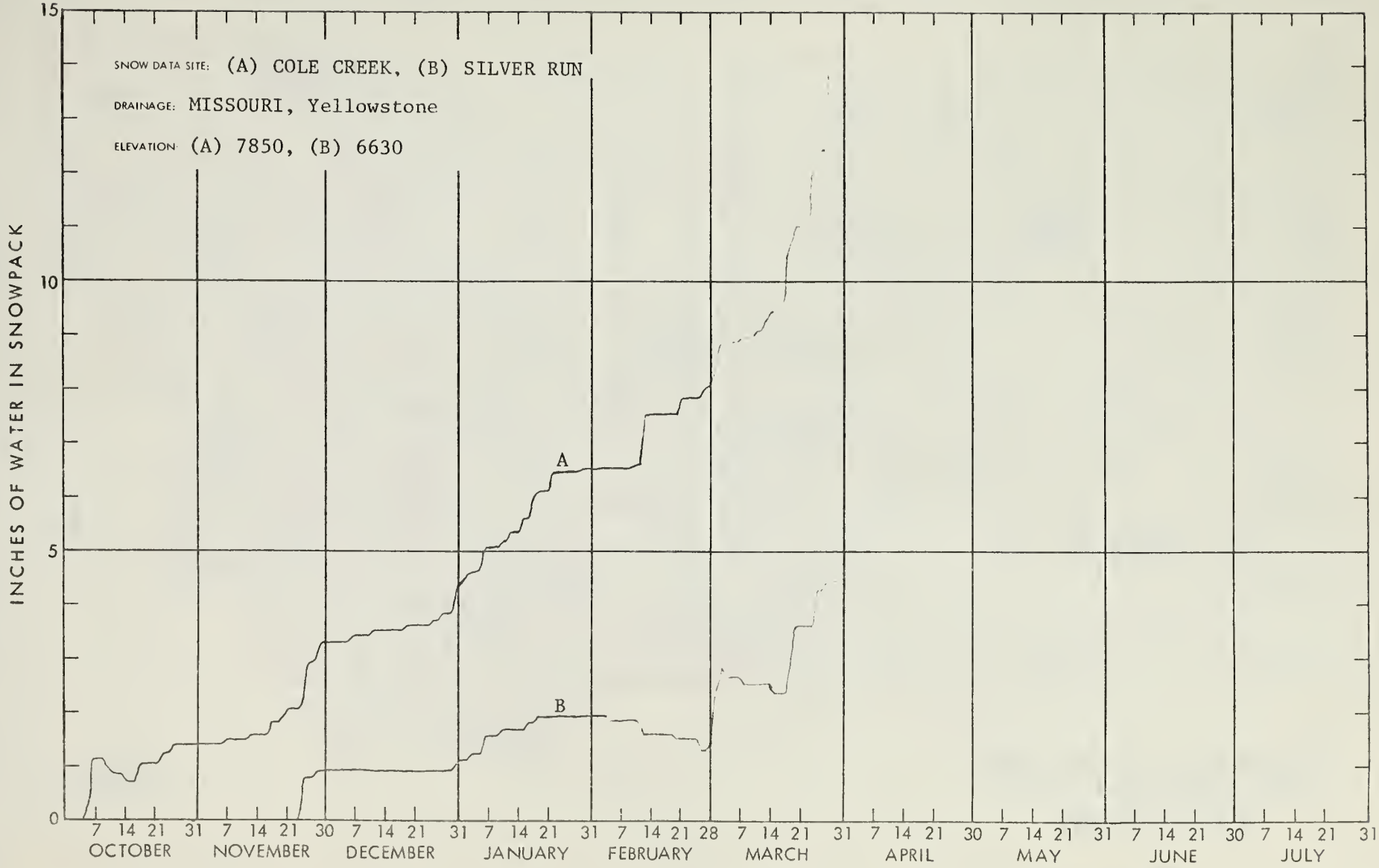
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DRAINAGE: MISSOURI, Yellowstone
ELEVATION: (A) 7850, (B) 6630
INCHES OF WATER IN SNOWPACK
15
10
5
0
A
B
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
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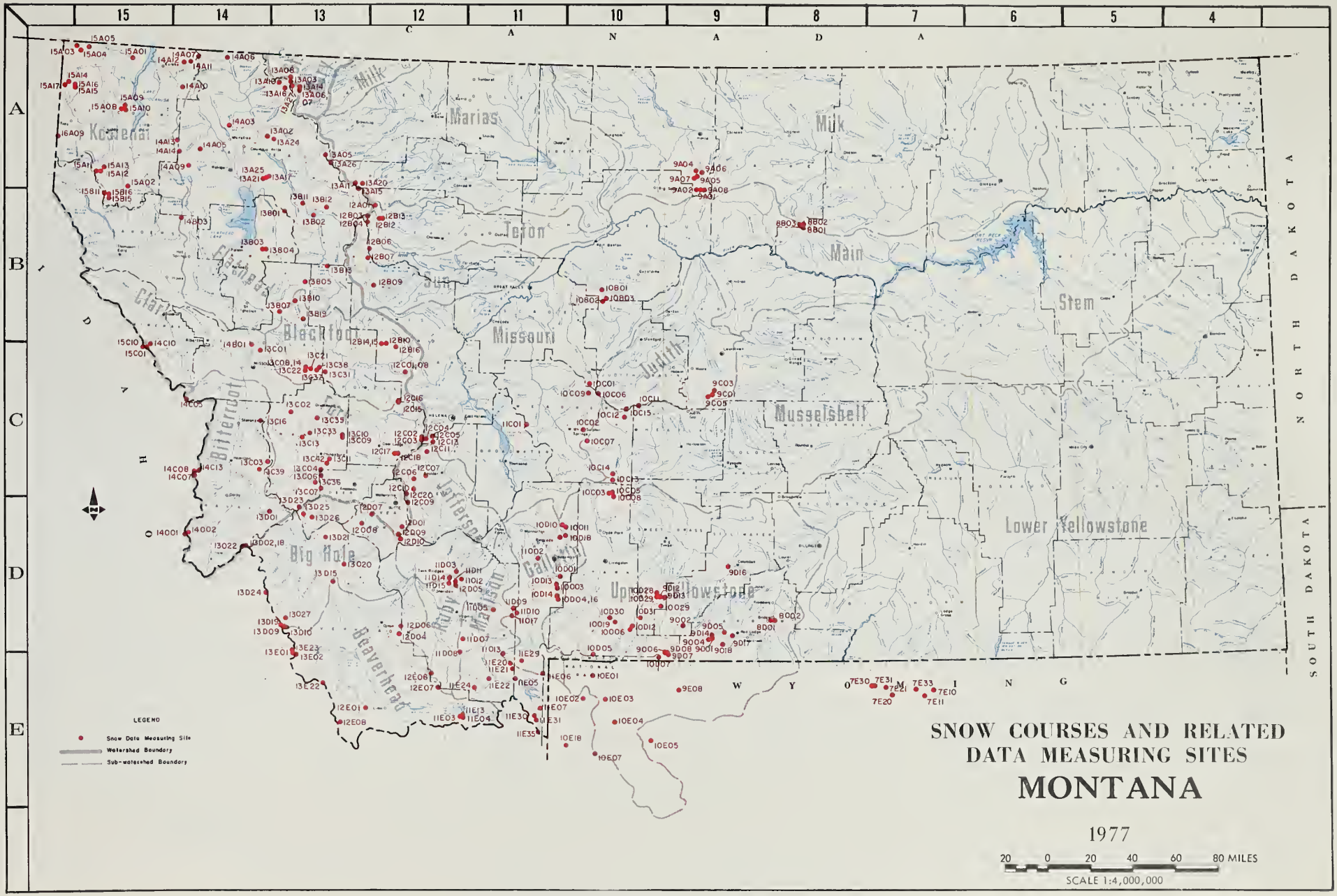
CANADA
NORTH DAKOTA
SOUTH DAKOTA
IDAHO
WYOMING
Kootenai
Marias
Milk
Teton
Sun
Clark Fork
Blackfoot
Missouri
Judith
Musselshell
Main Stem
Lower Yellowstone
Upper Yellowstone
Bitterroot
Big Hole
Jefferson
Gallatin
Madison
Ruby
Beaverhead
LEGEND
Snow Data Measuring Site
Watershed Boundary
Sub-watershed Boundary
SNOW COURSES AND RELATED
DATA MEASURING SITES
MONTANA
1977
20 0 20 40 60 80 MILES
SCALE 1:4,000,000

INDEX to MONTANA SNOW COURSES and DATA SITES

SNOW COURSES

COLUMBIA RIVER BASIN

KOOTENAI RIVER

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Bald Eagle Peak	15A11	5700	6	27N	31W		3,4,5,5½,6	1
Banfield Mountain	15A08	5600	4	32N	30W	S,P,T,W	2,3,4,5,5½,6	1
Baree Creek	15B11	5500	36	26N	31W		3,4,5,5½	2
Baree Midway	15B16	4600	31	26N	30W		3,4,5,5½	2
Baree Trail	15B15	3800	5	25N	30W	M	3,4,5,5½	2
Brietow Creek	15A10	3900	2	32N	30W		2,3,4,5,5½,6	1
Brush Creek Timber	14A13	5000	12	30N	26W		3,4,5	1,2
Cedar Grove	15A13	4100	35	28N	31W		2,3,4,5,5½,6	1
Davis Creek	15A04	5400	20	37N	33W		2,3,4,5,5½,6	1
Forth of July	15A15	3450	19	34N	33W		1,2,3,4,5,5½,6	2
Friday Hill	15A16	4620	19	34N	33W		1,2,3,4,5,5½,6	2
Garver Creek	15A05	4250	18	37N	32W	S,P,T,W	2,3,4,5,5½,6	1
Grave Creek	14A11	4300	1	36N	25W	S,P,T	3,4,5,5½,6	1
Hawkins Lake	15A03	6450	18	37N	33W	S,P,T,W	2,3,4,5,5½,6	1
Keeler Creek	16A09	3300	25	30N	35W		3,4,5	1
Lost Soul	15A09	4800	31	33N	29W		2,3,4,5,5½,6	1
Murphy Lake R.S.	14A10	3000	5	34N	25W	M,NSC	Monthly	2
Newton Mountain	15A17	5600	23	34N	34W		1,2,3,4,5,5½,6	2
Poorman Creek	15A12	5100	5	27N	31W	S,P,T,W	2,3,4,5,5½,6	1
Raven	15A02	3050	2	26N	29W	M,NSC	Monthly	2
Red Mountain	15A01	6000	4	36N	29W		3,4,5,5½,6	2
Red Top	15A14	5200	14	34N	34W		1,2,3,4,5,5½,6	2
Stahl Peak	14A12	6050	5	36N	25W	S,P,T	3,4,5,5½,6	1
Weasel Divide	14A07	5450	20	37N	24W		3,4,5,5½,6	1

FLATHEAD RIVER

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Bacon Peak	14B03	5150	11	24N	25W		3,4,5	5
Beaver Lake	13A11	5900	31	28N	11W		3,4,5	1
Big Creek	13B03	6750	7	22N	18W		3,4,5, 6	1,5
Camp Misery	13A17	6400	30	28N	18W		3,4,5	1,2
Desert Mountain	13A02	5800	24	31N	19W	M	1,2,3,4,5, 6	1,2
Emery Creek	13A24	4350	20	31N	18W	S,P	3,4,5	1
Petty Creek	13B06	5500	8	22N	18W		3,4,5, 6	1,5
Flattop Mountain	13A19	6300	12	35N	18W	S,P,T	4	1,6
Griffin Creek Divide	14A09	5150	11	28N	25W		3,4,5	5
Gunsight Lake	13B12	6300	30	26N	13W		3,4,5	1
Hood Creek	14A14	5035	6	29N	25W	S,P	3,4,5	1,2
Hell Roaring Divide	14A03	5770	35	32N	22W		1,2,3,4,5,5½,6	2
Holbrook	13B13	4530	18	21N	13W	A	1,2,3,4,5	1
Kishenehn	14A06	3890	14	37N	22W		3,4	6
Logan Creek	14A05	4300	34	30N	24W		3,4,5	1,2
Minaret Creek	13A16	4000	29	35N	17W		3,4,5	6
Noisy Basin	13A25	6040	25	28N	19W	S,P,T	3,4,5	1,2
Noisy Creek	13A21	3600	35	28N	19W		3,4,5	1,2
North Fork Jocko	13B07	6330	3	17N	17W		3,4,5,5½,6	1,5
Spotted Bear Mountain	13B02	7000	23	25N	15W	A	1,2,3,4,5	1
Trickum Lake	13B01	6100	9	25N	17W		3,4,5	1
Twin Creeks	13B11	3580	25	26N	16W	A	1,2,3,4,5	1
Upper Holland Lake	13B05	6200	28	20N	15W		3,4,5	1

CLARK FORK RIVER

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Basin Creek	12D09	7180	31	1N	7W	P	1,2,3,4,5,5½	14
Black Pine	12C13	7100	26	8N	15W	S,P,M,T	1,2,3,4,5,5½,6	1
Combination	13C33	5600	7	8N	14W	S,P,T	1,2,3,4,5,5½,6	1
Copper Bottom	12B16	5200	15	15N	8W	S,P,T	3,4,5	1,2
Copper Camp	12B14	6950	3	15N	9W	S,P,T	3,4,5	1,2
Copper Creek	12B10	5700	1	15N	9W		3,4,5	1,2
Copper Lake Creek	12B15	6100	3	15N	9W		3,4,5	1,2
Cottonwood Creek	12C17	6400	14	7N	8W		3,4	2
Coyote Hill	13B10	4200	12	18N	16W		1,2,3,4,5	1,2
Discovery Basin	13C42	7050	21	6N	13W		1,2,3,4,5,5½	1
Dix Hill	12C15	6400	24	11N	8W	P	1,2,3,4,5	11
El Dorado Mine	13C09	7800	23	8N	12W		3,4	1
Fred Burr Pass	13C11	8000	12	6N	13W		3,4,5	1
Gold Creek Lake	13C10	7200	14	8N	12W		3,4	1
Heart Lake Trail	14C10	4800	11	14N	27W		1,2,3,4,5,5½,6	1
Hoodoo Basin	15C10	6000	17	14N	27W	S,P,T	1,2,3,4,5,5½,6	1
Hoodoo Creek	15C01	5900	16	14N	27W		1,2,3,4,5,5½,6	1
Ketargaard	13C04	6450	6	5N	13W		2,3,4,5	4
Lower Willow Creek	13C35	4740	3	9N	14W	P,NSC	Monthly	1
Lubrecht Forest	13C14	4100	11	13N	15W	M,NSC	Monthly	8
Lubrecht Flume	13C38	4680	13	13N	14W	S,P	1,2,3,4,5	8
Lubrecht Forest No. 3	13C21	5450	19	13N	14W		1,2,3,4,5	8
Lubrecht Forest No. 4	13C22	4650	23	13N	15W		1,2,3,4,5	8
Lubrecht Forest No. 6	13C08	4040	11	13N	15W		1,2,3,4,5	8
Lubrecht Hydroplot	13C37	4200	22	13N	14W		1,2,3,4,5	8
Moulton Reservoir	12C20	6800	20	4N	7W		1,2,3,4,5,5½	14
North Fork Elk Creek	13C31	6250	20	13N	13W	S,P,T	1,2,3,4,5,5½,6	8
Ophir Park	12C16	7150	13	11N	8W		1,2,3,4,5	11
Petersen Meadows	13C36	7200	2	4N	14W	S,P	1,2,3,4,5	2
Seeley Lake R.S.	13B19	4030	21	17N	15W	N,NSC	Monthly	2
Skalkaho Summit	13C03	7260	30	6N	17W	P,M	3,4,5,5½,6	1
Slide Rock Mountain	13C02	7100	35	10N	16W		3,4,5	1
Storm Lake	13C07	7780	19	4N	13W		1,2,3,4,5	2
Stuart Mill	13C06	6500	19	5N	13W		2,3,4	4
Stuart Mountain	13C01	7400	6	14N	18W		3,4,5,5½,6	8
Sugarloaf	12C18	7350	13	7N	8W		3,4	2
TV Mountain	14B01	6800	33	15N	19W		1,2,3,4,5,5½,6	8

BITTERROOT RIVER

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Ambrose	13C16	6480	28	9N	18W		3,4,5	1
Daly Creek	13C39	5780	16	5N	18W	P	3,4,5	1
East Fork R.S.	13D01	5400	16	2N	17W		3,4	1
Gibbons Pass	13D02	7100	4	2S	19W	M	1,2,3,4,5,5½,6	1,3
Lolo Pass	14C05	5250	11	10N	24W	N	1,2,3,4,5	1,2
Lost Horse	14C07	5940	5	4N	23W		3,4,5,5½,6	1
Nez Perce Camp	14D02	5580	19	1S	23W	S,P	3,4,5	1
Nez Perce Pass	14D01	6570	25	1S	24W		3,4,5	1
Saddle Mountain	13D22	7940	5	2S	19W	S,P,T	1,2,3,4,5,5½,6	1
Twelvemile Creek	14C13	5600	34	5N	23W	S,P,T	1,2,3,4,5,5½,6	1
Twin Lakes	14C08	6510	32	5N	23W	S,P,T	1,2,3,4,5,5½,6	1

HUDSON BAY BASIN

ST. MARY RIVER

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Iceberg Lake No. 3	13A03	5600	1	35N	17W		5	3,9
Josephine Lower No. 9	13A14	4900	22	35N	16W		5	3,9
Many Glacier	13A27	4960	10	35N	17W	S,P	3,4,5	1,6
Mount Allen No. 7	13A07	5700	27	35N	14W		5	3,9
Piegan Pass No. 2	13A06	5500	27	35N	16W		5	3,9
Ptarmigan No. 8	13A08	5400	34	34N	17W		3	1,9

MISSOURI RIVER BASIN

BEAVERHEAD RIVER

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Beagle Springs	12E08	8850	6	16S	11W	P	3,4,5	1
Bloody Dick	13D10	7600	12	8S	16W	S,P	3,4,5	1
Carter Creek	12D04	7400	22	8S	7W		2,3,4	11
Christensen Ranch	12D06	6000	34	7S	7W	P,NSC	Monthly	11
Dad Creek Lake	13E22	8400	24	12S	13W		3,4,5	1
Elk Horn Springs	13D15	7800	21	4S	12W		3,4,5	3
Gold Stone	13D09	8100	11	8S	16W		3,4,5	1
Lakeview	11E13	6700	23	16S	2W	M,NSC	Monthly	10
Lakeview Canyon	11E04	6930	26	14S	2W		1,2,3,4,5	10
Lakeview Ridge	11E03	7400	27	14S	2W		1,2,3,4,5	10
Lemhi Pass	13E01	7480	9	10S	15W		3,4,5	1
Lemhi Ridge	13E23	8100	4	10S	15W	S,P,T	3,4,5	1
Trail Creek	13E02	7000	15	10S	15W		3,4,5	1
White Pine Ridge	12E01	8850	18	14S	9W		3,4,5	1

RUBY RIVER

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Branham Lakes	11D14	8850	5	4S	3W		3,4,5	1,12
Clover Meadow	11D08	8600	28	9S	2W		3,4,5	1
Divide	12E07	7800	14	12S	4W	S,P,T	3,4,5	1
Middle Mill Creek	11D15	7850	17	4S	3W		3,4,5	1,12
Notch	12E06	8500	18	11S	4W		3,4,5	1
Smuggler Mine	12D05	6960	24	4S	4W		3,4,5	1,12

BIG HOLE RIVER

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Abundance Lake	13D20	8800	7	3S	11W		3,4,5	1
Bull Mountain	12D08	7500	3	1N	10W		1,2,3,4,5	2
Calvert Creek	13D26	6450	34	2N	14W	S,P,T	3,4,5	1
Darkhorse Lake	13D19	8600	4	8S	16W		3,4,5	1
Fleecer Ridge	12D07	6600	18	2N	9W		1,2,3,4,5	2
Peoples	13D21	8280	11	1S	13W		3,4,5	1
Jahnke Lake Trail	13D27	7200	24	7S	16W		3,4,5	1
Mudd Lake	13D25	7650	24	2N	15W		3,4,5	1
Palisade Creek	13D23	8250	3	2N	15W		4,5	1
Slag-A-Melt Lake	13D24	8750	29	5S	17W		3,4,5	1

JEFFERSON RIVER

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Berry Meadow	12C07	7D00	8	5N	5W		3,4	1
Copper Mountain	12C09	7700	13	3N	7W		2,3,4,5,5½	4
Fish Creek	12D10	8000	5	1S	7W		1,2,3,4,5,5½	14
Nez Perce Creek	12C10	6500	16	4N	6W		2,3,4,5	4
Picnic Grounds	12C06	6500	21	5N	6W		2,3,4	4
Pipestone Pass	12D01	7200	10	1N	7W		1,2,3,4,5	4
Rocker Peak	12C11	8000	17	7N	5W	S,P,T	1,2,3,4,5	1

MADISON RIVER

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Black Bear	11E35	7950	27	15S	5E	S,P,T	1,2,3,4,5,5½,6	1,2
Call Road	11D07	8050	21	8S	2W		3,4,5	1
Four Mile	11D12	6900	5	6S	2W	P	3,4,5	1
Hebgen Dam	11E05	6550	22	11S	3E		1,2,3,4,5	3
Jack Creek	11D05	7500	13	6S	1E		3,4	1
Lake Creek	11E22	6100	27	11S	1E		2,3,4,5	1,2
Lower Twin	11D11	7900	12	4S	3W	P	3,4,5	1
Madison Plateau	11E31	7750	28	14S	5E	S,P	1,2,3,4,5,5½,6	1,2
North Meadow	11D03	7500	24	3S	3W		3,4,5	1
Petomageton Park	11E21	7150	33	10S	3E		3,4,5	2
Sentinel Creek	11E20	8300	17	10S	3E		3,4,5	2
Tepee Creek	11E24	8000	15	12S	1W	S,P,T	2,3,4,5	1,2
West Yellowstone	11E07	6700	34	13S	5E	S,M	1,2,3,4,5	1,3,6
Whiskey Creek	11E30	6800	19	14S	5E	S,P,T	1,2,3,4,5,5½,6	2

GALLATIN RIVER

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Arch Falls	10D14	7350	3	5S	6E		1,2,3,4,5,5½,6	1
Bear Basin	11D09	8150	9	6S	3E		3,4,5	1
Big Sky	11D17	7700	30	6S	3E	P	1,2,3,4,5	1
Bridger Bowl	10D15	7250	25	1N	6E	S,P,N	1,2,3,4,5,5½,6	1
Carrot Basin	11E29	9000	18	10S	4E	S	1,2,3,4,5	2
College Site	11D02	4856	18	2S	5E	M,NSC	Weekly	7
Devils Slide	10D04	8100	14	5S	6E		1,2,3,4,5,5½,6	1
Hood Meadow	10D03	6600	22	4S	6E		1,2,3,4,5,5½,6	1
Lick Creek	10D13	6860	10	4S	6E	S,P,N	1,2,3,4,5,5½,6	1
Little Park	11D10	7400	22	6S	3E		3,4,5	1
Maynard Creek	10D18	6210	19	1N	7E	S,P	1,2,3,4,5,5½,6	1
New World	10D01	6700	24	3S	6E		2,3,4	1
Shower Falls	10D16	8100	14	5S	6E	S,P,T	1,2,3,4,5,5½,6	1
Taylor Peaks	11D13	8500	26	9S	2E	S,P	4	1
Twenty-One Mile	11E06	7150	1	11S	5E	M	1,2,3,4,5	3

MISSOURI RIVER MAIN STEM

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Big Coulee	10B03	5100	10	19N	9E		1,2,3,4,5	1,12
Boulder Mountain	11C01	7950	1	9N	3E		3,4,5	1
Chessman Reservoir	12C05	6200	2	8N	5W		1,2,3,4,5	3
Deadman Creek	10C09	6450	23	12N	8E	S,P,T	1,2,3,4,5,5½,6	1
Elk Park	10C07	8000	10	8N	8E		3,4,5	1
Prohner Meadows	12C13	6480	23	8N	5W	S,P,T	1,2,3,4,5	1
Grasshopper	10C02	7000	19	9N	8E		3,4,5	1
Highwood Divide	10B02	5650	16	19N	9E	P	1,2,3,4,5	1,12
Highwood Station	10B01	4600	20	20N	9E	P	1,2,3,4,5	1,12
Kings Hill	10C01	7500	34	13N	8E	M	3,4,5,5½,6	1,3
Stemple Pass	12C01	6600	16	13N	7W	M	3,4,5	1,3
Ten Mile Lower	12C02	6600	12	8N	6W		1,2,3,4,5	3
Ten Mile Middle	12C03	6800	13	8N	6W		1,2,3,4,5	3
Ten Mile Upper	12C04	8000	19	8N	5W		1,2,3,4,5	3

TETON-MARIAS-SUN RIVERS

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Badger Pass	13A15	6900	4	27N	11W	A	1,2,3,4,5	1
Blue Lake	13A10	5900	25	28N	11W	A	1,2,3,4,5	1
Cabin Creek	12B06	5200	33	23N	10W		3,4,5	2
Five-Bull	12B09	5700	20	20N	10W		3,4,5	1
Freight Creek	12A01	6000	13	26N	10W		3,4,5	1
Goat Mountain	12B07	7000	20	22N	10W		3,4	2,3
Marias Pass	13A05	5250	31	30N	13W	M	1,2,3,4,5	3,6
Mount Lockhart	12B12	6400	18	25N	9W	S,P,T	1,2,3,4,5,5½,6	2
Pike Creek	13A26	5930	5	29N	13W	S,P	3,4,5	1
Waldron	12B13	5600	17	25N	9W	S,P,T	1,2,3,4,5,5½,6	2
Wrong Creek	12B04	5700	32	25N	10W		3,4,5	2
Wrong Ridge	12B03	6800	17	25N	10W		3,4,5	2

JUDITH RIVER

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Big Snowy	9C05	7150	25	12N	17E		3,4,5	1
Crystal Lake	9C01	6100	19	12N	18E	P	3,4,5	1
Rock Creek	9C03	5600	7	12N	18E		3,4,5	1
Spur Park	10C06	8100	20	12N	9E	S,P,T	1,2,3,4,5,5½,6	1

MUSSELSHELL RIVER

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Daley Peak	10C15	7800	34	11N	11E		3,4,5	2
Eagle Creek	10C13	7000	2	5N	10E		3,4,5	2
Forest Lake	10C14	6400	26	6N	10E		3,4,5	2
Haymaker	10C11	8050	16	11N	12E		3,4,5	2
Johnson Park	10C12	6450	16	10N	11E		3,4,5	2

MILK RIVER

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Beaver Creek	9A05	3950	21	29N	16E	M,NSC	Monthly	1,7
Bear Paw Ski Area	9A02	5200	21	28N	16E	P	1,2,3,4,5	1,7
Boxelder Creek	9A08	5100	24	28N	16E	P	1,2,3,4,5	1,7
King Creek Saddle	8BD2	4550	10	25N	24E		1,2,3,4,5	5
King Springs	8B03	4150	9	25N	24E		1,2,3,4,5	5
Kiowa Camp	9A04	3720	9	29N	16E	P,W,T	1,2,3,4,5	1,7
Mission Mountain	8B01	5050	15	25N	24E	P	1,2,3,4,5	5
Rocky Boy	9A01	4700	22	28N	16E	S,P,M	1,2,3,4,5	1,7
Sucker Creek	9A06	3960	11	29N	16E	P	1,2,3,4,5	1,7
Taylor Road	9A07	4080	19	29N	16E	P	1,2,3,4,5	1,7

UPPER YELLOWSTONE RIVER

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensers in Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Bald Ridge	10C05	7500	11	4N	10E		3,4,5	1
Battle Ridge	10D11	6020	32	7N	7E	M	1,2,3,4,5	1
Bote Sota	9D14	7750	35	7S	18E		3,4,5	1
Box Canyon	10D31	6700	28	6S	12E		3,4,5	1
Brass Monkey	10D29	9050	6	5S	14E	P,NSC	Seasonally	11
Camp Senia	9D01	7890	2	8S	18E		3,4,5,5½,6	1
Cole Creek	9D16	7850	26	2S	19E	S,P	1,2,3,4,5,5½,6	1,2
Colley Creek	10D30	6300	34	6S	10E	P	3,4,5	1
Cooke Station	9D07	8150	19	9S	15E		3,4,5,5½,6	1,2
Crevice Mountain	10D05	8400	22	9s	9E		3,4	2
Yisher Creek	9D06	9100	11	9S	14E	S,P,T	1,2,3,4,5,5½,6	1,2
Grizzly Peak	9D05	8400	26	7S	19E		1,2,3,4,5	1,2
Independence	10D06	7850	21	7S	12E		3,4,5	1
Mill Creek	10D19	7500	6	7s	11E	P	3,4,5	2
Monument Peak	10D12	8800	16	7S	12E		3,4,5	1
Northeast Entrance	10D07	7400	33	9S	14E	S,P,M,T	1,2,3,4,5,5½,6	1,6
Picket Pin Lower	9D13	6200	1	5S	14E	P	1,2,3,4,5	13
Picket Pin Middle	9D12	7250	3	5S	14E		1,2,3,4,5	13
Picket Pin Upper	10D28	8100	32	4S	14E	P	1,2,3,4,5	13
PMC Oryland	8D02	3700	35	6S	23E	M,NSC	Monthly	1
PMC Headquarters	8D01	3656	34	6S	23E	P,W,T,NSC	Daily	1
Porcupine	10C03	6500	10	4N	10E	S,P	3,4,5	1
Sacajawea	10D10	6550	36	2N	6E		3,4,5	1
Silver Run	9D18	6630	11	8S	19E	S,P,T	3,4,5	1
South Fork Shields	10C08	8100	13	4N	10E		3,4,5	1
Timberline Creek	9D04	8850	10	8S	18E		3,4,5,5½,6	1
West Rosebud	9D02	7500	9	7S	16E		3,4	4
White Mill	9D08	8700	18	9S	15E	S,P,T	3,4,5,5½,6	1,2
Willow Creek	9D17	6500	31	7S	20E		1,2,3,4,5	1,2

LEGEND

1/ Blank refers to snow course only at site
S = snow pillow also
P = precipitation gage also
M = soil moisture also
T = max-min temperature also
W = wind run also
A = aerial marker also
NSC = no snow course at site

2/ Numerals 1,2,3,4,5,5½,6 refer to snow course or aerial marker measurements on January 1, February 1, March 1, April 1, May 1, May 15, and June 1. Most snow pillows, temperature, and wind run are daily readings, most precipitation gages and soil moisture are read monthly.

3/ Numerals refer to agency making the snow surveys as follows:

1. Soil Conservation Service
2. Forest Service
3. Geological Survey
4. Montana Power Company
5. Bureau of Indian Affairs
6. National Park Service
7. MSU Agricultural Experiment Station
8. University of Montana School of Forestry
9. Department of Energy, Mines and Resources
10. Bureau of Sports Fisheries and Wildlife
11. Private Cooperator
12. Montana Association of Conservation Districts
13. Montana Department of Fish and Game
14. Butte Water Company

Agencies and Organizations Cooperating in Montana Snow Surveys

GOVERNMENT AGENCIES

Canada:

Water Survey of Canada, Calgary, Department of the Environment
Water Resources Service, Department of Lands, Forests and Water Resources, British Columbia
Alberta Environment, Edmonton, Alberta

Federal:

Department of the Army
- Corps of Engineers

U.S. Department of Agriculture
- Forest Service
- Soil Conservation Service

U.S. Department of Commerce
- NOAA, National Weather Service

U.S. Department of the Interior
- Bonneville Power Administration
- Bureau of Indian Affairs
- Bureau of Reclamation
- Fish and Wildlife Service
- Geological Survey
- National Park Service

STATE

Montana Association of Conservation Districts
Montana Department of Fish and Game
Montana Department of Natural Resources and Conservation
Montana State University - Agricultural Experiment Station
University of Montana - School of Forestry

PRIVATE

Montana Power Company
Butte Water Company
The Anaconda Company

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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